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"They are the elect to whom beautiful things mean only Beauty."—*Oscar Wilde.*

Sketch Design for Equestrian Statue, by E. A. Rickards, F.R.I.B.A.

This drawing is remarkable as an anticipation of eventual appearance. Thoroughly impressionistic in treatment, all irrelevant detail is omitted.

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EDITED BY FREDERICK MARRIOTT

DESIGN AND TRADITION

A SHORT ACCOUNT OF THE PRINCIPLES AND HISTORIC DEVELOPMENT OF ARCHITECTURE AND THE APPLIED ARTS

BY

AMOR FENN

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AUTHOR'S PREFACE

IT may be urged with some reasonable basis of truth that much of the modern art work fails to attain the level of that of the past. It must be conceded, however, that demand and appreciation is more general and widely diffused. As social conditions have developed, interest in environment has been stimulated. Improved processes resulting in more economic production have rendered possible an indulgence by those of moderate means, attainable only at earlier periods by the wealthier class.

As a result of this more general appreciation the professional services of the artist are necessarily in greater request, thus affording a sphere of work not only lucrative but temperamentally attractive.

At the present time the facilities available to the prospective artist are considerably greater than at any previous period. In every district and important centre, there are schools specialising in the Arts and Crafts, giving opportunities for training at fees that are purely nominal. Most of these deal with the various phases of artistic expression on logical and sound lines, but the knowledge and experience essential to a successful artistic career is invariably acquired in professional work to which the art school training is preparatory.

To those specialising in design, the study of Historic Style is of paramount importance. Intelligent investigation will show that in all the varying phases, the underlying factors are much the same, and appreciation of these will be found invaluable in personal work.

AUTHOR'S PREFACE

Necessarily brief, this book has been prompted by the memory of early bewilderment and difficulties, when a guiding hand would have saved much valuable time and mis-directed energy.

A considerable amount of the available space is devoted to Architectural features, with the conviction that a knowledge of these will be found helpful in the formation of methods, logical and constructive.

Attention is directed to the frontispiece, a typical example of the extraordinary genius of E. A. Rickards, F.R.I.B.A., the original of which is in the possession of Philip Connard, A.R.A., to whom indebtedness for its use is acknowledged.

The author's thanks are also due to Miss Dora Bard and Mr. C. E. Bernard for the reproduction of drawings made by them during their tenure in successive years of the " Travelling Studentship " of the Society of British Decorators.

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CONTENTS

CHAPTER | PAGE

I Introductory 1

Human Limitations, p. 1—Inspiration—Process and Material, p. 2—Early Training, p. 4—Art and Existence, p. 5—Natural Taste—Commercial Production, p. 6—" Ornaments," p. 7—Modern Development—Public Apathy, p. 8—Elementary Pattern, p. 9—Early Impressionism—Personal Production, p. 10—Early Social Conditions, p. 11—Influence—Commercial Intercourse, p. 12—Effect on Design, p. 13—Ethical side of Art, p. 14—Desire for Novelty, p. 15.

II Historic Review 16

Style, p. 16 — Intercommunication — Climate and Material, p. 17—Phases in Style, p. 18—The Lintel, p. 19—The Arch, p. 20—Egyptian Art, p. 22—Chaldean Art, p. 25—Greek Art, p. 28—Roman Art, p. 35—Vaulting, p. 36—Greek Influence, p. 37—Roman Development of Ornament, p. 38—Græco-Roman Painted Decoration, p. 39—Byzantine Dome, p. 43—Early Christian Art, p. 46—Byzantine Metal Work, and Enamel, p. 47—Roman Influence Abroad—Romanesque Style, p. 49—Church Development, p. 50—Dark Ages, p. 53—Crusades, p. 56—Origin of the Pointed Arch, p. 58—Gothic Style, p. 59—Phases of Gothic—Early Pointed, p. 60—Decorated Gothic, p. 64—Perpendicular Gothic—Glass Windows, p. 67—Civic Influences, p. 70—Effect of Commerce—Classic Tradition in Italy, p. 71—Foreign Influence in England—The Dwelling House, p. 72—The Reformation, p. 74—The Renaissance, p. 75—Early Florentine Exponents, p. 76—Rome, p. 78—Venice, p. 80—Venetian Influence, p. 81—Painted Decoration, p. 82—Græco-Roman Influence, p. 83—Early French Renaissance, p. 85—Native Exploitation, p. 87—English Renaissance, p. 88—Italians in England, p. 89—Study of Classic Style—Thomas Thorpe, p. 91—Flemish Influence, p. 92—Jacobean Work, p. 93—Development in Dwellings, p. 98—Evolution of Professional Designer, p. 101—Inigo Jones, p. 102

CONTENTS

CHAPTER PAGE

—Louis XIII, p. 103—Louis XIV, p. 106—" Boule" Work—Mirrors, p. 109—Louis XV, p. 110—Régence —Rococo, p. 111—Lacquer " Vernis Martin "—Later English Renaissance, p. 113—Sir Christopher Wren, p. 114—Classic Treatment of the Spire, p. 116 —Dutch and French Influences, p. 118—Queen Anne Period—Early Georgian, p. 120—Furniture Design, Chippendale, p. 121—Mayhew—Robert Adam, p. 123—Hepplewhite, p. 126—Sheraton—Louis XVI, p. 127—Riesener and Gouthière, p. 133—Empire—Empire in England—Later English Architecture, p. 135—French Influence on Europe, p. 136.

III Mouldings 138

Purpose—The Fillet—Sheltering Mouldings—The Cavetto, p. 139—Cyma Recta—Bracketing Mouldings—The Ovolo, p. 140—Cyma Reversa—Binding Mouldings, p. 141—The Torus—The Scotia—The Facia, p. 142—Decoration of Mouldings, p. 143—Orthodox Details—Angle Leaf, p. 145—Dentils, p. 146—Employment of Mouldings, p. 147—Attitude, p. 148—Panel Mouldings—Woodwork, p. 149—Applied Mouldings, p. 151—Bolection Moulding, p. 152—Mouldings in Plaster Work—Wood Turning, p. 153—Metal Turning—Pottery, p. 154—Mechanically produced Metal Mouldings—Wrought Iron, p. 155—Silver Work, p. 156—Sheet Metal, Spinning, and Repoussé, p. 157.

IV Architectural Proportions 158

Introduction, p. 158—System of Proportion, p. 159 —The Order, p. 160—Doric Order, p. 161—Ionic Order—Corinthian Order, p. 163—Doric Entablatures—Mutules, p. 164—Ionic Entablature, p. 169—Corinthian Entablature, p. 171—The Column, p. 172 —The Capital—Doric Capital, p. 173—Ionic Capital —Ionic Volute, p. 175—Corinthian Capital, p. 178 —The Base, p. 180—Doric Base, p. 181—Ionic Base, p. 182—Corinthian Base—The Arch, p. 184—Doric Impost, p. 185—Doric Archivolt—Ionic Impost, p. 186—Ionic Archivolt—Corinthian Impost—Corinthian Archivolt—The Keystone, p. 187—The Pedestal, p. 188—Doric Pedestal, p. 189—Ionic Pedestal—

CHAPTER PAGE

Corinthian Pedestal, p. 190—The Baluster, p. 191—Spacing of Balusters—Balustrading, p. 193—Use of Columns, p. 194—Disposition and Spacing in Colonnades, p. 195—Orders above Orders, p. 197—The Pilaster, p. 199—Arcades, p. 200—The Subsidiary Order, p. 202—Treatment of Superimposed Orders, p. 204—Rustication, p. 205—The Basement, p. 207—The Attic, p. 208—The Pediment, p. 209—Doors, p. 211—Windows, p. 213.

V Division of Surface 216

Wall Treatment, p. 216—Ceilings, p. 218—Jacobean—Carolean and Georgian, p. 221—Adam Ceilings, p. 222—Vaults and Domes, p. 224—The Cove, p. 225—The Frieze, p. 226—Borders, p. 227—Geometric Elements—The Undulate Line, p. 230—Repetition and Alternation, p. 233—Treatment of Angles, p. 234—Pilaster Treatment—Panelled Pilasters, p. 235—Capitals and Bases—Treatment of Panels, p. 236—Juxtaposition, p. 238—The Growth Line in Composition, p. 241—Grouping and Massing of Detail—Division of Area, p. 242—Human and Animal Life in Composition, p. 244—Forms in the Round, p. 245 Supports and Balusters—Standards, p. 246—Proportion, p. 247—Vase Forms and Treatment, p. 248—Working Drawings, p. 249—The Segment or Stretch out, p. 250.

VI Development of Conventional Ornament 254

Outline Drawing, p. 254—Undesirable Realism, p. 255—Craft Restrictions, p. 256—Materialistic Influence, p. 258—Early Renderings, p. 261—The Anthemion, p. 262—Greek Sculptured Ornament, p. 263—The Acanthus Leaf, p. 264—Roman Development—The Scroll, p. 266—Græco-Roman—Byzantine, p. 267—Romanesque—Gothic—Italian Renaissance, p. 268—The Husk Leaf, p. 269—The Rosette, p. 270—Tendrils, p. 271—Nature Influence—Inconsistent employment of Symbolic Elements, p. 272—Consistency in Growth—Branching, p. 273—Treatment and Employment of Leaves, p. 275—The start in Ornament, p. 276—Italian Renaissance Influence—Jacobean, p. 280—French Renaissance—

CHAPTER PAGE

Henry II, p. 281—Louis XIII, Louis XIV, Régence—Louis XV, p. 283—Rococo—Louis XVI, p. 284—Grinling Gibbons School of Carving—Adam Style, p. 285—Empire—System of the Acanthus Leaf, p. 286.

VII Treatment in Design 288

Natural Attraction, p. 288—Decorative Materials, p. 289—Justification of Treatment, p. 290—Undesirable Imitation, p. 291—Technical Considerations—Methods of Expression, p. 292—Treatment of Leaves, p. 293—Surface Interest—Painted Decoration, p. 294—Stencilled Work, p. 295—Mechanical Production—Printed and Woven Fabrics—Needlework—Appliqué, p. 296—Lace-Wood Inlay—Intarsia, p. 297—Veneer—Marquetry—" Boule " Work, p. 298—Mosaic, p. 299—Byzantine use of Marble—Book Decoration, p. 300—Bindings—Relief Work—Economic Result of Method—Desirable Treatment in Carving, p. 301—Backgrounds, p. 303—Reproduction Processes—Metal Repoussé, p. 304—Cast Metal, p. 306—Character of Cast Work, p. 307.

VIII Mythology and Symbolism 310

Early Symbolic Ornament, p. 310—Customs, p. 311—Origin of Mythology—Nature Myths, p. 312—Light and Darkness—Melanesian Legend, p. 313—Darkness as a Devouring Monster—Season Myths, p. 314—Sun Myths—Belief in Natural Phenomena, p. 315—Greek and Roman Deities, p. 316—Scandinavian Mythology, p. 317—Rising and Setting Symbolised, p. 318—Winds Personified—Predestination, p. 319—The Fates—Propitiation and Sacrifice, p. 320—Early Burial Customs—Taboo—Roman Lares, p. 322—Mediæval Legend—Early Spiritual Belief, p. 323—Prehistoric Treatment of Epileptics—Prohibition, p. 324—Belief in Magical Qualities, p. 325—The Shirt of Nessus—Swords, p. 326—Invulnerability, p. 327—Belief in Numbers—The Muses, p. 328—Sacred Trees and Flowers, p. 329—Sacred Animals—Evangelist Symbols, p. 331—The Serpent—The Dragon, p. 332—Poetic License in Tradition, p. 333—Animals in Christian Art, p. 334—Association of

CONTENTS

CHAPTER PAGE

Human and Animal Qualities—Totemism—Cannibalism, p. 336—The Sphinx—Assyrian Winged Monsters, p. 337—Pegasus—The Harpy—Sirens, p. 338—Pan—The Nymphs—The Centaur, p. 339—Symbolism of the Circle, p. 340—Symbols of the Trinity—The Wand, a Symbol of Authority—The Hand, p. p. 341—The Caduceus—The Thyrsus, p. 342—The Trident—The Cross, p. 343—The Pastoral Staff, p. 344—Symbols of Martyrdom—Symbolism of Gems and Colours, d. 345—Masks—Symbols of Time, p. 346—Secular Symbols—Trophies, p. 347—Heraldry—Interest and Meaning in Modern Art, 348.

IX Ways and Means 350

Perception, p. 350—Accepted Conventions, p. 351—Influence of Fashion—Harmonious Consistency, p. 352—Natural Suggestion—Colour Scheme, p. 353—Early Training—Nature Study, p. 355—Aspect and Attitude, p. 356—Treatment of Studies, p. 358—Drawings for Reproduction, p. 359—Opaque Colour—Method of Enlarging or Reducing Drawings, p. 360—Textile Designs, p. 361—Wall Papers, p. 362—Architectural Drawings—Structural Design, p. 363—Lucid Arrangement of Details, p. 364—Mathematical Equipment, p. 365—Use of the Ruling Pen—Proportional Compasses, p. 367—Tracings—Conclusion, p. 368.

LIST OF ILLUSTRATIONS

Sketch Design for Equestrian Statue, by E. A. Rickards, F.R.I.B.A. *Frontispiece*

ARCHITECTURE, HISTORIC	No.	Page
Egyptian Temple, Section and Plan of	10	23
Temple, Entrance Façade	11	24
Capital from Philæ	12	24
Persian Capitals from Persepolis	16	27
Greek Doric Temple, The Parthenon	21	30
Ionic, The Erectheum	22	31
Corinthian, The Choragic Monument	23	32
Vase paintings of Doric and Ionic Orders	19	29
House about 100 A.D. Bas-relief in British Museum	20	29
Roman, The Pantheon, Rome	26	36
The Coliseum, Rome	27	37
The Arch of Titus, Rome	28	38
Byzantine St. Vitali Ravenna, Section and Plan	35	44
Capitals	36	(Plate)
Interior, Ravenna	39	(Plate)
Romanesque Capitals	42	50
Tower	43	50
Plan, Cathedral at Worms	44	51
Bay of Cathedral at Worms	45	52
Window, St. Alban's Abbey	46	52
Church Interior with Triforium	47	52
Doorway, Kilpeck Church	49	54
Gothic Buttresses	53	58
Early Pointed Pier	54	60
Early Pointed Bay of Church	55	61
Early Lancet Windows	56	62
Early Pointed Windows. Plate Tracery	57	62
Early Pointed Arch Mouldings	58	62
Early Pointed Capital	59	63
Early Pointed Tracery Windows	60	63
Early Pointed Spire	61	64
Decorated, Tracery Windows	62	64
Decorated, Carving	63	65
Decorated, Arch Mouldings	64	65
Decorated, Capital	65	66

LIST OF ILLUSTRATIONS

	No.	Page
ARCHITECTURE, HISTORIC—*continued*		
Decorated, Capital	66	66
Decorated, Spire	67	66
Perpendicular, Bay of Church showing Development of Clerestory	68	67
Perpendicular, Windows	69	68
Perpendicular, Fan Vaulting	70	69
Perpendicular, Tower	71	69
Domestic Tudor, Window	75	74
Renaissance, Italian, Strozzi Palace	76	76
Italian, Pandolfini Palace	77	77
Italian, St. Peter's, Rome	78	79
Italian, Farnese Palace	79	80
Italian, Vendramini Palace	80	81
Italian, Library of St. Mark	81	82
English, Banqueting House, Whitehall	105	103
French, Louis XIII. Luxembourg	106	104
French, Louis XIII. Barocco Detail, Ste. Marie, Nevers	107	105
French, Louis XIV. Louvre	109	106
French, Louis XV. Pantheon	112	110
English, St. Paul's Cathedral	118	115
English, Spire, St. Mary le Strand	119	116
Tomb of Tantalus in Lydia	5	19
Tomb of Beni Hassan	17	28
Tomb at Kyanea-Jaghu	18	28
ARCHITECTURAL FEATURES		
Arch, The Principle of the	6	20
Balusters, Details of	170	192
Cornice, Treatment where Order is not employed	180	209
Doors, General Proportion of	182	211
Treatment of	183	212
Frieze, Roman	198	226
Frieze, Roman	199	227
Gothic Vault, Section of	7	20
Vaulting	9	21
Cross Vaulting	48	53
Lintel, The	4	19
Lintel, The, Joggled Joints	8	21
Orders, General Proportions of the	154	162
Order, The Doric	153	160
The Doric Entablature, Vignola	155	165
The Doric Entablature, Mutular	156	166

LIST OF ILLUSTRATIONS

	No.	Page
ARCHITECTURAL FEATURES—*continued*		
Order, The Doric Capital	159	173
The Doric Base	165	181
The Doric Pedestal	169	189
The Doric Archivolt	168	186
The Doric Impost	168	186
The Doric Arcading	174	201
The Doric Arcading with Pedestal	175	202
The Doric Column and Pilaster	173	200
The Ionic Entablature	157	168
The Ionic Capital	160	174
The Ionic Capital (Angular Volutes)	161	176
The Ionic, Detail of Angular Volute	162	177
The Ionic Base	166	182
The Ionic Pedestal	169	189
The Ionic Archivolt	168	186
The Ionic Impost	168	186
The Corinthian Entablature	158	170
The Corinthian Capital	163	179
The Corinthian Capital	164	180
The Corinthian Base	167	183
The Corinthian Pedestal	169	189
The Corinthian Archivolt	168	186
The Corinthian Impost	168	186
The Superimposed	172	198
The Subsidiary	176	203
The Subsidiary, Detail of Entablature	180	209
Pediment, The	181	210
Pilaster The, Capital	209	236
The, French Renaissance	208	236
Rustication, Types of	178	206
In Arcades	179	207
Spacing of Columns	171	196
Windows	184	214
Three-Light	185	215
DECORATIVE FEATURES		
Acanthus Leaf, Brush Work	235	264
Development	251	281
Development	252	282
Construction of	253	287
Anthemion, Greek, Relief Treatment	232	262
Greek, Vase Painting	231	261
Border, The Geometric, Key or Labyrinth	200	228

	No.	Page
DECORATIVE FEATURES—*continued*		
Border, The Geometric, Interlacing	201	229
The Scroll	204	232
The Evolute Scroll	207	234
The Vertebrate	244	274
Branching, Types of	243	274
Inlay, Wood, Geometric	260	297
Wood Borders	261	297
Wood Panel	262	297
Wood Panel	263	298
Wood, Italian Intarsia	264	298
Metal " Boule " Work	266	299
Metal " Boule " Work	267	299
Inlaid Floor, Italian Renaissance	188	219
Lace	259	(Plate)
Marquetry	265	(Plate)
Mosaic Work, Spandril, Byzantine	40	(Plate)
Borders	268	(Plate)
Border, Roman	269	(Plate)
Border, Roman	270	(Plate)
Panel, Roman	271	(Plate)
Needlework	257	(Plate)
Appliqué	258	(Plate)
Relief Ornament, Prehistoric	2	(Plate)
Greek Stone Carving	218	(Plate)
Roman Stone Carving	237	(Plate)
Roman Stone Carving	29	39
Byzantine Stone Carving	37	46
Byzantine Stone Carving	38	47
Byzantine Stone Carving	216	244
Romanesque Stone Carving	217	244
Gothic Stone Carving	238	268
Gothic Stone Carving	239	269
Gothic Stone Carving	219	(Plate)
Renaissance, Italian	248	278
Renaissance, Italian	249	279
Renaissance, French	88	86
Renaissance, French	250	280
Renaissance, French	90	88
Jacobean Gouge Work	276	302
Jacobean Wood Carving	277	303
Jacobean Wood Carving	95	94
Louis XIV. Wood Carving	275	(Plate)
English Wood Carving	274	(Plate)

LIST OF ILLUSTRATIONS

	No.	Page
DECORATIVE FEATURES—*continued*		
Relief Ornament, French Wood Carving	113	111
French Wood Carving	279	306
French Wood Carving	212	239
French Wood Carving	211	238
French, Part of Ceiling	210	237
French Wood Carving	133	134
Icelandic Wood Carving	280	306
English 18th Century	273	(Plate)
English, Modern	213	240
Analysis of Composing Lines	214	241
Rosettes, Types of	241	270
Scroll, The, Greek Stone Carving	233	262
The Evolute, Archaic	229	259
The Evolute, Savage Art	230	260
Scroll, The, Wrought Iron	234	263
Brush Work	236	265
As a Growth Line	202	230
Italian Renaissance	240	270
Start, The, Nest or Cup Leaf	246	277
Half Figure	247	277
Tendril, Roman	242	272
Terminals, Branch and Scroll	245	275
Textiles, 14th Century Woven Fabric	3	13
14th Century Woven Fabric	51	56
Sicilian Tapestry	52	57
14th Century Tapestry	205	232
Turkish Brocade	203	231
French Brocade	206	233
Details of Inhabited Pattern	256	295
Tooled Book Binding	272	(Plate)
FURNITURE		
Egyptian	13	25
Egyptian	14	26
Assyrian Seat	15	27
Greek	24	33
Roman Couch	30	39
Roman Sella or Seat	31	39
Romanesque Chair	50	55
Gothic Chair	72	70
Gothic Bedstead	73	71
Italian Renaissance	86	84
Italian Renaissance	87	85

LIST OF ILLUSTRATIONS

	No.	Page
FURNITURE—*continued*		
Italian Renaissance	92	89
French Renaissance	91	88
English 17th Century	99	98
English 17th Century	100	99
English 17th Century	101	100
English 17th Century	102	100
English 17th Century. Baluster	221	246
French Louis XIII	108	105
French Louis XIV	111	108
French Louis XV	265	(Plate)
English late 17th Century	116	113
English late 17th Century	117	114
Dutch and Queen Anne Chairs	121	119
English 18th Century	122	122
French Louis XVI	132	133
INTERIOR FEATURES		
Ceilings, Italian Renaissance	187	218
Italian, General Plan	189	220
Italian Renaissance, Painted,	83	(Plate)
Italian Renaissance, Painted,	85	(Plate)
Tudor	190	221
Jacobean	191	222
Jacobean	192	223
Carolean	193	224
Robert Adam	194	225
Chimney Pieces, Gothic 13th Century	74	71
Italian Renaissance	93	90
French Renaissance	89	87
Jacobean	96	95
Domes and Vaults, Italian Renaissance :		
St. Peter's, Rome	197	(Plate)
Villa Madama	196	(Plate)
Ducal Palace, Venice	195	(Plate)
Doors, Jacobean	97	96
Jacobean	98	97
French Renaissance	278	305
French Renaissance, Louis XV	114	112
English Renaissance	120	117
French Renaissance, Louis XVI	130	132
Frieze, The Jacobean, Carved Wood	94	93
French, Louis XVI	131	133
Interior Decoration, Græco-Roman	32	40

	No.	Page
INTERIOR FEATURES—*continued*		
Interior Decoration, Wall Division	186	217
Italian Renaissance	84	(Plate) 107
French Renaissance, Louis XIV 110		
English " Adam "	123	124
English " Adam "	124	125
French Louis XVI	126	128
French Louis XVI	127	129
French Louis XVI	128	130
French Louis XVI	129	131
METAL WORK		
Græco-Roman	33	41
Græco-Roman	34	42
Byzantine Tradition	41	48
Wrought Iron	282	307
Wrought Iron, Venetian	283	307
Repoussé	103	101
Repoussé	281	(Plate)
Cast	104	102
Cast, Louis XV	115	113
Sheffield Plate	125	126
Filagree Jewellery	228	257
Cast Iron (Modern)	222	247
Surface Decoration of	284	308
METHOD		
Of Enlarging and Reducing Drawings	286	361
MOULDINGS		
Profiles of	134	138
Enrichment of	135	144
Detail of the Dentil	136	147
Aspect of	137	148
Stone, Panel Effect	138	149
Wood Panels	139	150
Wood Panels, Applied	140	151
Wood Panels, Applied	141	152
The Bolection	142	152
Table Top	143	153
Turned Wood	144	153
Pottery	145	154
Pottery	146	154
Rolled Metal	147	155

	No.	Page
MOULDINGS—*continued*		
Drawn Metal	148	155
Wrought Iron, Swaged	149	156
Wrought Iron, Built up	150	156
Wrought Iron, Built up	151	156
Spun Metal	152	157
VASE FORMS		
Primitive Pottery	1	(Plate)
Greek Pottery	25	34
Greek Pottery, Painted Details	19	29
Effect of Perspective	220	245
Segments of Contoured Surfaces	226	251
Segments of Contoured Surfaces	227	252
Stretch-out of the Cylinder	224	249
Stretch-out of the Cone	225	250
Types of Vase Decoration	223	248

CHAPTER I

INTRODUCTORY

IT is an article of faith that to design entails the possession of the creative faculty, which may be taken for granted with the proviso, that the creative faculty is concerned rather with the association of elements common to all than with invention pure and simple.

Human Limitations

To be more explicit, the human imagination is limited to personal or acquired experience. At no period has any form been created that is not traceable to some process of production, or natural suggestion ; for instance, the artistic conception of an angel is merely a combination of human and bird form, and is in no sense an original creation.

The term originality is indeed generally misunderstood, and for the reasons already advanced it is impossible to be original. The real interest in artistic production of any kind is the expression of personality, in other words, the individual point of view of the artist ; which is more or less interesting, as it is more or less personal in idea and expression.

In the training of the designer it is essential that the imagination be carefully cultivated and trained to accept suggestion from any possible source.

Design is distinct from any phase of realistic

expression inasmuch as the subject does not exist in any concrete form, but has to be mentally visualised.

" Inspiration "

Too much importance is attached to what is believed to be inspiration, but obviously if inspired, design is rather in the nature of an accident than of the deliberate intention it should be and cannot be credited to the individual exponent. What at first sight suggests inspired thought may be accounted for by sub-consciousness, which is really responsible for the evolution of an idea or the solution of some problem.

It would be beneficial to reject once and for all the idea of inspiration with its tendency to encourage the " artistic temperament " in the belief that it " does not feel like it."

The designer must be ready to respond at any time, and this implies a logical and balanced mind, capable of grasping essentials, and conditions, and of evolving some desirable solution.

Another superstition is that a design is a drawing, and it only requires a facility in this form of expression to produce a design. This is a fallacy, as though many designs are for convenience expressed through this medium, any such drawing must be made with a knowledge of the technical details of the final method of production, to be a practical design.

Process and Material

Design is therefore inseparable from consideration of material and process, with which the designer must be acquainted ; without this technical knowledge it is

impossible to take full advantage of the method of production either in the direction of economy or effect.

Other considerations are utilitarian and æsthetic, the former having regard to purpose, the latter to appearance.

That mere utility is not in itself sufficient is evident; the common enamelled saucepan and the medicine bottle are certainly utilitarian, but no one would assert that they are satisfying from the æsthetic point of view.

An important consideration in design is the "market" which is governed by popular or individual demand.

Those who pay the piper call the tune, and the designer has often to work to prescribed conditions.

This apparently implies restriction of individuality, but the designer who refuses to conform will probably find the market even more restricted.

It also implies that he must be well versed in the various styles or historic tradition, so that his work, if desirable, may be in harmony with existing environment; but in these circumstances it is quite possible to produce work that is individual and distinctive.

Designers, craftsmen and manufacturers are all dependent upon public demand, which must be taken into account, and their business is as far as possible to raise the general standard of taste, by producing of their best. Any attempt on their part to insist on what shall or shall not be done would undoubtedly result in failure.

To sum up, the designer must not only be an accomplished draughtsman well versed in traditional ornament and style, but it is necessary that he should cultivate the imaginative and perceptive faculties;

and, in addition, the commercial qualities of promptness and business insight.

Early Training

The question is often raised, can design be taught? If by this it is understood, can the designing faculty be created in the ordinary student, the answer is distinctly in the negative; but undoubtedly students can be directed through a course of training that will enable them to produce at least work that is good, though it may not be personally distinctive.

An intelligent study of the elements and basis of pattern and of traditional styles should result in the ability to produce work on safe traditional lines that will be in harmony with environment. Such work it may be claimed would only attain the level of mediocrity; how much farther the student will go depends largely upon application and natural faculty.

Natural faculty is fairly common, while genius is rare and can look after itself. The teacher is concerned with the rank and file, and the training and development of the natural faculty should be the aim.

Where this exists it should be carefully nursed, involving great responsibility in the choice and direction of the courses of study.

The able exponent does not always make the best teacher, as students are apt to be influenced by a strong personality and to be imitative.

Influence in the early stages is quite natural, and to some extent beneficial, but if permanent, the student becomes one of the crowd in failing to develop the

personality, which is the sole interest, and is the teacher's responsibility to preserve as far as possible.

Negative criticism is not teaching, and in any suggested modifications reasons should be given, so that the teaching be constructive ; to which end it is desirable that the teacher be capable of analysis and possessed of method.

Popular taste as a factor that has to be considered has already been suggested, but it is evident that the average member of the public has little knowledge of Art, and still less of design.

Art and Existence

That Art is necessary to existence may be questioned, as life would be possible—if not very interesting—if regulated only by considerations of utility. In a less cultivated state we are satisfied with the gratification of merely physical wants ; so in a more cultivated state Art becomes one of the mind's necessities.

The dictionary definition of Art is " practical skill guided by rules," and that of an artist as " one who practises an Art."

Possibly the former might be better expressed by the statement that " Art is an appeal to the emotions by colour, form, rhythm and sound."

Art exists not only in that which appeals to the vision, but also in that which is transmitted to the aural sense, as in declamation, oratory and music.

The dictionary particularises the fine arts of Painting, Sculpture and Architecture, but to what extent is the possession of examples of these possible to the public at large except in the most general sense ?

What is invariably lost sight of is that the personal environment, the furniture and domestic surroundings of the individual constitute the actual field for artistic expression.

It is questionable whether our present system of Art instruction is sufficiently far-reaching, devoted to the training of would-be artistic exponents rather than in the cultivation of the public at large.

"*Natural Taste*"

There is still a superstitious belief in "natural taste," and whereas the individual member of the public would immediately, in the ordinary affairs of life, consult a specialist, yet in a matter of artistic selection there is profound confidence in personal exercise of judgment.

It is not contended that taste may not be inherited, but taste may be good or bad.

Good taste is invariably our own; bad, the selection of others, but it is surely irrational to assume that we all naturally possess a knowledge which indisputably takes many years to acquire and cultivate.

Commercial Production

It is often stated that the common inartistic environment is the result of commercial output, and it is true that the ordinary member of the public is restricted in choice to what is on the market; but it can be urged that the object of the manufacturer is to sell, and that he makes it his business to study and supply existing demand. The manufacturer's standard is therefore regulated by the evidence of public taste, and as this

is improved so will the artistic quality of production be raised.

The buying public is influenced by what it believes to be the fashion of the moment rather than any conscious appreciation of fitness and purpose, or perception based on artistic education.

"*Ornaments*"

This is evidenced by a casual survey of the contents of shop windows in any neighbourhood, and it will be noticed that preponderance is given to the class of objects generally known as ornaments; objects that have no possible utility and intended solely for display.

It is conceded that many objects fall into this category, and the display of old brass candlesticks and Italian drug pots, for instance, may be excused as examples of a period when such utensils, strictly utilitarian, were incidentally made beautiful.

Modern furniture frequently offends—being too often constructed with less regard to utility than to external effect.

The present tendency is to hide in cupboards and remote regions the actual things we use, and to display objects that are only moved at the perennial spring-cleaning; one honest piece of furniture remains in the modern house—the kitchen dresser, of which we are apparently ashamed, as also of the dinner service with which it is occupied. To some extent the reason may be found in short tenancies, and the three years' lease may have much to answer for. It is usually felt to be more convenient to move than to put up with the nuisance of re-decorating; and consequent on frequent

change of environment, is a lack of interest in furniture and other personal belongings.

Modern Development

The advent of the motor car is also to some extent a factor, resulting in the town flat and country cottage, which means the abandonment of the large house and its interests and responsibilities; bringing about a change in domestic life, with the growing tendency to entertain at hotels and restaurants.

This tendency to more public life naturally results in even less interest in personal possession and environment; still further fostered by the hire-furnish system which enables its patrons to indulge in frequent change of style and locality.

Public Apathy

Lamentable as it may seem from the artistic point of view, it certainly appears that the general public are at least apathetic, and that Art appeals less to them than the facilities for change and personal indulgence; still there is plenty of scope for the designer and producer if they adapt themselves to the everchanging conditions and requirements.

The earliest design was probably due to materialistic causes, imperfect implements and difficulties and accidents turned to account.

It is conceivable that primitive man in his early essays in pottery found extreme difficulty in obtaining a smooth surface, which, notwithstanding all endeavours, would be, in the unbaked state, sensitive to scratches and other damage. This difficulty may have suggested

intentionally covering the surface with such scratches, etc., more or less arranged, thus making a virtue of necessity.

Elementary Pattern

Examination of early pottery will reveal simple patterns scratched or incised, consisting mainly of straight lines arranged in zigzag or herringbone form ; in some instances the pattern is apparently the result of pressure of some simple implement, resembling what is known in plastering as trowel point.

Such details are simply those that could be produced by means of some form of point, stone, stick or finger nail, and are not representative of any known form ; and it is not till a much later period that any indication occurs suggestive of a growth line or natural type.

Curves seldom occur, certainly not in the scroll form, though rings singly or concentric are among the early details ; but these could easily be the result of pressure by the ends of hollow reeds.

The evolute wave and scroll that figures so largely in later ornament was presumably in imitation of wire-work, forms which the material would readily suggest, particularly the continuous line of the evolute.

Development in the direction of relief ornament in primitive pottery is indicated in the decoration consisting of incrusted pellets and slithers of clay.

There is ample evidence that human appreciation and desire for expression in art is natural and instinctive, as is demonstrated by the marvellous work of the Paleolithic etchers and bone carvers, who may well be considered the first impressionists.

Early Impressionism

They could have only studied many of their subjects at a respectful distance, and this adds to the merit of the successful embodiment of characteristics.

The work is invariably realistic, that is, imitative of natural form, and is evidence of insight and appreciation that for the time and working condition is quite extraordinary, and is in distinct contrast with the earlier ornament, which is not in any way imitative of, or traceable to, any natural suggestion.

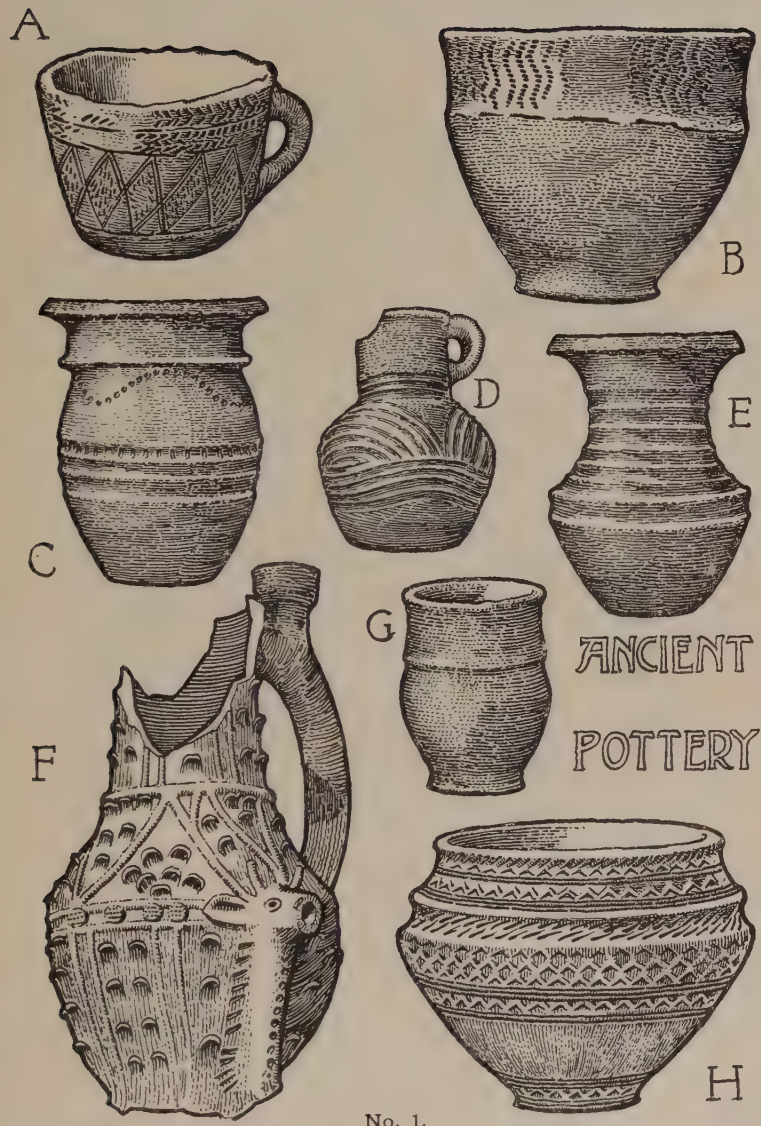
On investigation it will be found that artistic expression has generally three phases; the first where purely inorganic details are employed such as directly arise from the process and material involved.

The second phase is realistic or imitative of natural form, and the third—conventional, where the details are probably derived from natural suggestion but are treated with restraint; the last being the result of cultured appreciation of process and æsthetic considerations.

Personal Production

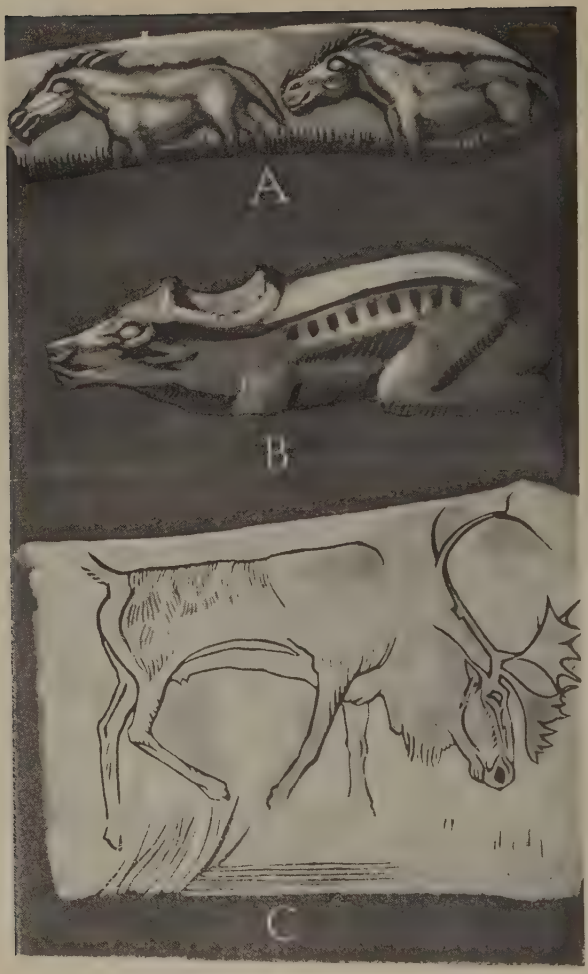
It is essential to assume that originally it was customary to personally produce whatever was considered necessary in the way of pottery or weapons, but that eventually certain workers would devote themselves more or less exclusively to producing for the community, being compensated by immunity from other labour, and that this developed in course of time into patronage, and the producer being entirely supported by his craft.

Appreciation from would-be possessors stimulated



No. 1.

A. Cup, Barrow, Denzell, Cornwall.
B. Cinerary Urn, Barrow, Stanlake, Oxon.
C. Sepulchral remains, Nilgiri Hills, Sth. India.
D. Jug, German sepulchral mounds, Bronze Age.
E. Sepulchral remains, Nilgiri Hills, Sth. India.
F. Early English puzzle jug.
G. Cinerary Urn, Barrow, Bloxworth Down, Dorset.
H. Food Vessel, sepulchral mounds, earliest Bronze Age, Ireland.



No. 2. A. B. Palaeolithic Bone Carvings.
C. „ Etching on Bone.

the primitive craftsmen who, in proportion to their individual skill, would be rewarded, and this naturally led to the establishment of the professional worker and artist.

To appreciate the evolution of art it is necessary to consider the early social conditions.

The primitive life was insular and nomadic, the family or tribe staying in any locality only so long as food was available for themselves and herds; such communities were necessarily pastoral and predatory.

The simple requirements under these conditions would be vessels for storage, conveyance, or cooking, probably pottery; weapons, and doubtless jewellery or objects of personal adornment.

Later by necessity and under favourable conditions they would develop agriculture, which would result in fixity of abode; and this would entail precautionary measures for protection from predatory tribes.

The original camp or stockade for this purpose in time led to the fortress or castle for the protection of the town, and the more substantial nature of these gave rise to architecture.

With comparative security more pacific conditions would prevail, and the simple communal life develop into more complex social distinctions.

Early Social Conditions

The military class established for protective reasons would be dependent upon the general community for their upkeep, thus imposing taxation on the various workers, and necessitating a system of government and of officials for effective collection and distribution.

Social distinctions would be drawn between the various classes, governing, administrative, military, and non-combatant; the latter would furnish the bulk of the workers and be further divided into craftsmen, agriculturists and traders.

In process of time from the executive class would develop the nobility, priestly and legal classes.

Influence

Art was originally local, that is, confined to the community, but later was subjected to various influences—Political, Religious, and Commercial.

Political, by treaty or intermarriage, when imported taste or interchange would result, or by conquest.

Judging by the past, the conquered have invariably imposed their taste on their conquerors, as instanced in the Greek conquest of Persia; that of the Romans of the Greeks, and later the perpetuation of the Roman influence after their subjugation at the hands of the Goths.

The Crusades resulted in the importation of fabrics of Eastern and Sicilian origin, and may be classed as a religious influence; an earlier example of which may be cited in the edict of Pope Leo III in A.D. 726 in response to the iconoclastic movement, by reason of which the Byzantine art workers, deprived of their living, emigrated to the Rhine district.

Commercial Intercourse.

The establishment of commercial intercourse had great influence on the arts, and did much to modify local character, as it was found necessary to study

market conditions in order to secure sales ; and goods were therefore made to suit foreign requirements and taste, thereby resulting in confusion and difficulty in defining the original source.

Notable, for instance, were the Sicilian weavers, who, contrary to their local traditions, introduced heraldry into the patterns of their fabrics, so as to conform to the taste of the crusaders.

No. 3. 14th Century Textile showing Heraldic influence.

The Phœnicians were the early merchant adventurers, and traded in work of Tyrian and Sidonian production with remote parts of Europe, taking back local produce in exchange. Later on, through the medium of the Hanseatic league, brass work from Flanders and cast-iron firebacks from Sussex were distributed through-out the area of their operations ; of which surviving examples demonstrate that local taste and requirement were considered and embodied.

Effect on Design

Apart from this cause of loss in local character, Art

production was further influenced by the rise in social position of the worker.

When the craftsman remained the sole factor, his design and work was invariably true to materialistic conditions ; but with increasing emolument incidental to appreciation and patronage, the designer emerged as a professional.

In the early times the craftsman was independent to a great extent of architectural influence, but later he was compelled to study the architectural environment and adapt his designs in accordance.

Even then he was true to his craft conditions until the designing was taken out of his hands by the newly evolved professional who, in many instances had little knowledge of, or was indifferent to the technical side of the craft.

Possibly the greatest offender in this respect was the French designer of the Rococo period, whose woodwork design is regardless of constructive detail, and it is to the everlasting credit of the workmen that they overcame the difficulties thrown in their way, and that so much of this work is still in existence.

Ethical Side of Art

Art is also reflective of the ethics and morals of the time ; compare, for instance, the robust character of Gothic work with the lack of meaning and insincerity of the later Renaissance, degenerating into the license of the Rococo.

Much that is commonly regarded as ornament in traditional work was originally invested with symbolic meaning, in later times lost sight of, with resultant loss of character and interest.

The study of traditional work is essential to the designer, not merely for reproduction but on account of its value as reflective of the experience and point of view of past exploiters.

Desire for Novelty

The present is marked by a feverish anxiety to be new, but the old worker had a more humble spirit and was content to carry on a tradition a little further if possible

Much that appears to be new will on investigation prove to be an old friend in disguise, and in venturing on what is apparently a new idea it may be well to reflect as to whether it may not have occurred to others, and whether it is worth doing.

" Novelty," a detestable word, should have no place in artistic considerations. That which is really good should be good for all time ; but the sporadic outbreaks that occur from time to time in so-called new phases, have their little day and relapse into the limbo of the forgotten. In the meantime tradition still goes on, sometimes progressing, now and then retrogressing, but at all times unbroken.

History as written is misleading, dealing as it does with personalities and conquests ; the real history of the world can be read in its artistic development.

CHAPTER II

HISTORIC REVIEW

SOME of the factors in the evolution of Art have already been briefly suggested, but to thoroughly appreciate artistic production a passing acquaintance, at least, with the various phases of historic developments is essential. The scope of the present work obviously renders it impossible to deal with the subject in detail, but libraries are accessible to those who are desirous of extending their knowledge.

It has already been stated that the earlier crafts were independent of any influence other than that of material and process, and this has continued in some of the crafts to the present time ; but those more closely allied to building, particularly those associated with furniture and decoration, eventually became subject to the architectural phase or style of the period, which dominated form and detail.

Style.

Style may be described as manner of expression, either individual or local, and for convenience is defined by nationality and period. It is usual to speak of Greek, Roman, Gothic, etc., of such a century ; in the case of the Renaissance, it is customary to particularise the variants, as Italian, French, English, etc., also with the period or century.

The development of style, intimately involved as it

is in the social, religious and political history of nations, must ever be powerful in its interest and far-reaching in its appeal.

The first idea in the mind of man is undoubtedly that of utility, but in succeeding stages of culture there comes a natural craving for something more than this. And so with the progress of a race we can trace the progress of its decorative art.

Inter-Communication

Then there is the consideration of the effect that one race or community inevitably has on another with which it comes in contact—either through conquest or through the establishment of commercial relations. Naturally the market is captured by the workmanship displaying the finest qualities, æsthetic and practical, and these qualities advance with the development of society and with progress in mechanical skill. As a result of conquest the civilisation of either conqueror or conquered must become the dominant influence, and the possible fusion and interchange of ideas may modify style to a considerable extent.

Climate and Material

Locality has always been a determining factor, particularly in architecture where the material available is of necessity utilised, and in most cases is the one best suited to the climatic conditions; for instance, where wood abounds we find it successfully employed.

Climate is also largely responsible for architectural form. In the North, owing to heavy snows, the roofs are high-pitched. The early Egyptian buildings were

of mud and wattle, the readiest material to hand, and form ample protection from the sun in a practically rainless district. It is interesting to note that the character of these structures was imparted to their later work in stone. This was used in the most important buildings, and was readily obtainable from the Nubian quarries and transported down the Nile on rafts.

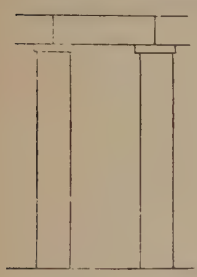
Phases in Style

It must be remembered that although broad classifications can be made in styles, yet there are intermediate stages which are transitional, and which are usually due to the importation of some foreign influence. The phases of a transitional period can usually be defined; at first the new style is slavishly imitated or else executed by the foreign worker exploiting it. This is followed by its being used in conjunction with the native construction, and lastly, the native interpretation of the foreign style is possibly grafted on to older forms.

It should be understood that at no time was there any great immediate change in style, but that there are phases which can be described as typical, connected by periods of gradual change or transition; due, doubtless, to individual expression of taste, either on the part of exponent or patron, or as previously suggested, by influences political, religious or commercial.

Careful study will show that the change in the majority of instances was due to reaction from a florid to a more severe treatment, which in its turn became redundant in character and detail. Apart from the artistic point of view, these changes are interesting as reflective of the character of the times.

From the constructive point of view there are two distinct principles to be appreciated, the Lintel and the Arch. The Lintel, which is the earlier, may be described as a large stone style, and consists of the bridging of apertures by means of horizontal slabs, supported by vertical columns or piers. This is a method of construction with distinct limitations, as it was impossible to bridge large areas or spaces without frequent support.



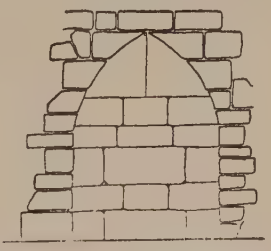
No. 4. The Lintel.

The Lintel

The joints of the Lintel necessarily occur over the centres of the supporting columns, and the space between these was controlled by the size of the obtainable material and the imposed weight it could bear ; the result being, as in the great hall at Karnak, a forest of closely spaced columns. It was not until the principle of the Arch was developed into vaulting that interiors of any considerable dimension with clear floor spaces were possible.

Lintel construction was employed in the Egyptian, Chaldean and Greek styles.

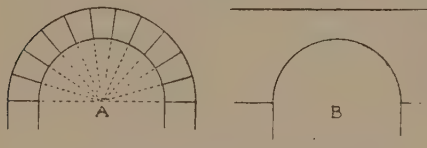
The Arch, as a constructive form, did not appear until a later period, and possibly was due to some extent to the employment of brick and stones of small size.



No. 5. Tomb of Tantalus in Lydia. Vault form, but not vault construction.

Form or shape is not involved, as it is quite possible to so shape the Lintel as to give the appearance of the Arch by cutting the underside to the

required curve. In the early Greek architecture examples have been found of both Arch and vault appearance, but these are the result of horizontal courses, successively projecting; that is, built in the form of inverted steps, the underside being cut to the arch curve, and is a form of construction restricted to bridging relatively small areas.



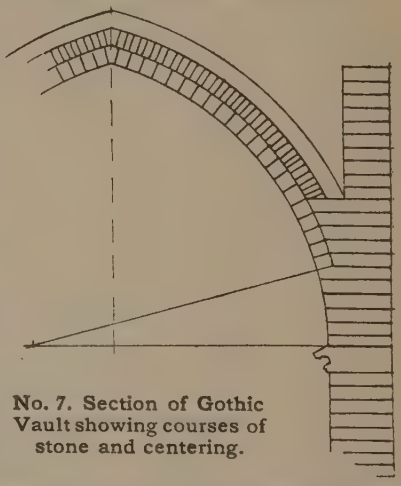
No. 6. A. Structural Arch. B. Arch appearance, result of cutting away.

The Arch

The principle of the Arch depends upon the separate pieces of material being formed to a wedge shape, the joints corresponding to radial lines drawn through the centre from which the Arch curve is struck.

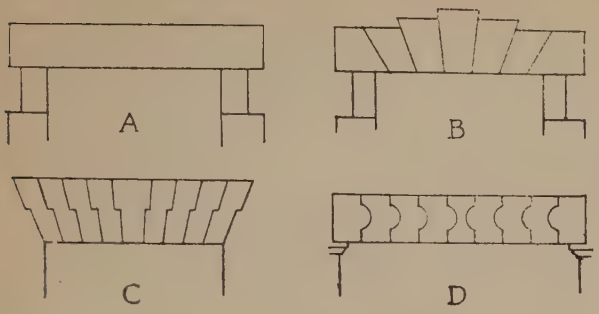
The weak part of the Lintel is the centre of the span which may have a tendency to give way under pressure, but the wedged construction of the Arch renders the centre strong enough to bear the imposed weight.

In contrast with the Lintel, material of small size could be employed, not only stone, but brick being used in Arch construction.



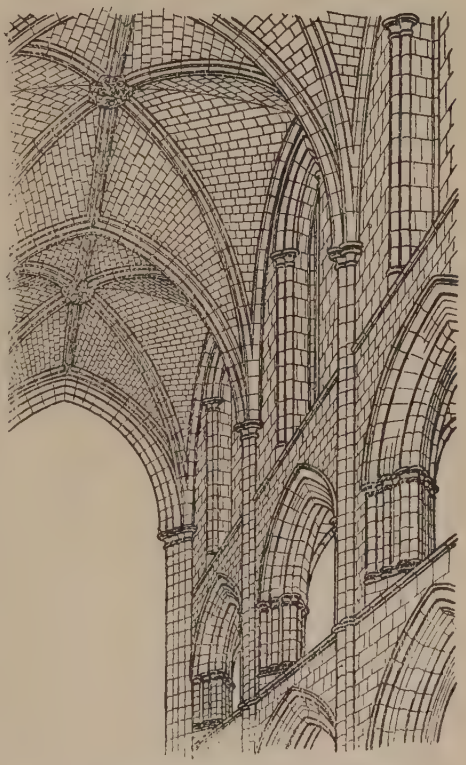
No. 7. Section of Gothic Vault showing courses of stone and centering.

The Lintel, in relatively small spans, is sometimes composed of separate small stones, shaped to fit each other in the form of Joggled joints.



No. 8.
A. Lintel in one piece.
B.C.D. Various forms of Joggled joints.

The outward and manifest appearance suggests to the lay observer a striking divergence in the style known as Gothic from the Roman manner of building; but the main difference is in proportion and treatment of detail, the underlying principle being much the same. The use of the Arch and vaulting was common to both, but in the Gothic development greater strength was obtained, with even greater economy of material. The archivolts and



No. 9. Gothic Vaulting showing intersecting ribs forming framework of structure.

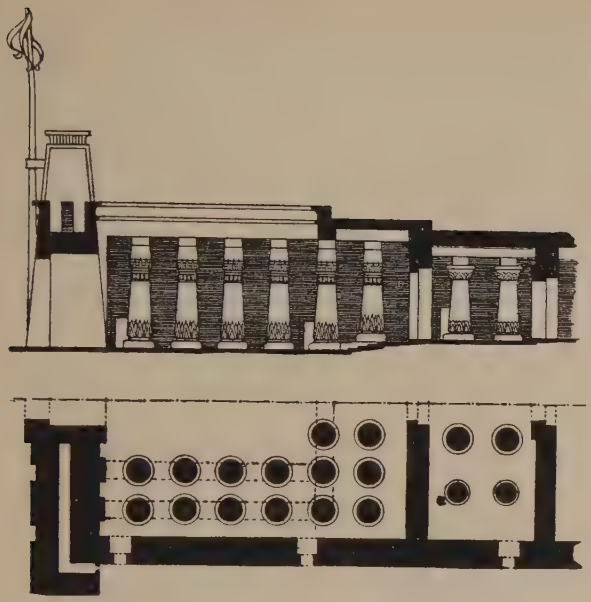
intersecting ribs of vaults, with their supports, literally formed the bones of the building, constituting a framework to which the bays of walls and roofing were only a matter of filling in.

In the words of Mr. C. H. Moore, in his work on "Development and Character of Gothic Architecture"—"the Gothic style developed into a system where stability depends not upon any inert massiveness except in the outermost abutments, but upon a logical adjustment of active parts whose opposing forces produce a perfect equilibrium. It is thus a system of balanced thrusts, as opposed to the former system of inert stability."

Egyptian

The Egyptian buildings, in common with those of Palestine, were frequently of mud, strengthened by wattle or reeds interwoven, evidence of which is apparent in later incised decoration. Buildings were also of sun-baked bricks, those of an important character being faced with stone; the exteriors of these latter were simple and severe, the walls being slightly tapered and surmounted by a simple cove cornice, with gateways and entrances of massive form.

The internal effect was of mystery, doubtless due to the comparative absence of light, and to the many columns necessary to carry the roofings. The columns which were mostly employed in the interiors, were squat and stunted in proportion, being from four to seven diameters in height, with capitals of the Lotus, Papyrus or Hathor variety. Mouldings were of the simplest character and sparsely used, and the



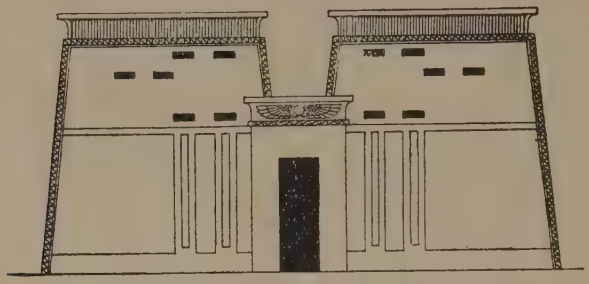
No. 10. Longitudinal section and half plan of Egyptian Temple.

decoration included renderings of the Lotus and Papyrus plants, either painted or incised in stone with the addition of colour.

Egyptian architecture may be generally described as monumental, while the ornament was apparently inspired by religious feeling and desire for symbolic expression, rather than by more æsthetic considerations.

In Egyptian Art ornament is subordinated to the architecture, and the employment of wall pictures and of inscriptions in the hieroglyphic character, added considerably to the decorative effect. In the wall pictures the figures were depicted in silhouette, in conventional attitudes, the head and limbs being displayed

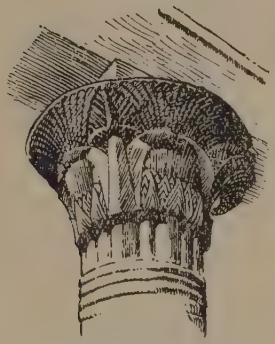
in severe profile, while the torso is represented in full front view. The methods of expression were painting, or incised in outline on stone, invariably filled in with



No. 11. Entrance Facade of Egyptian Temple.

colour, the effect in both being of flatness, with little suggestion of modelling or rotundity, the various features being defined by local colour.

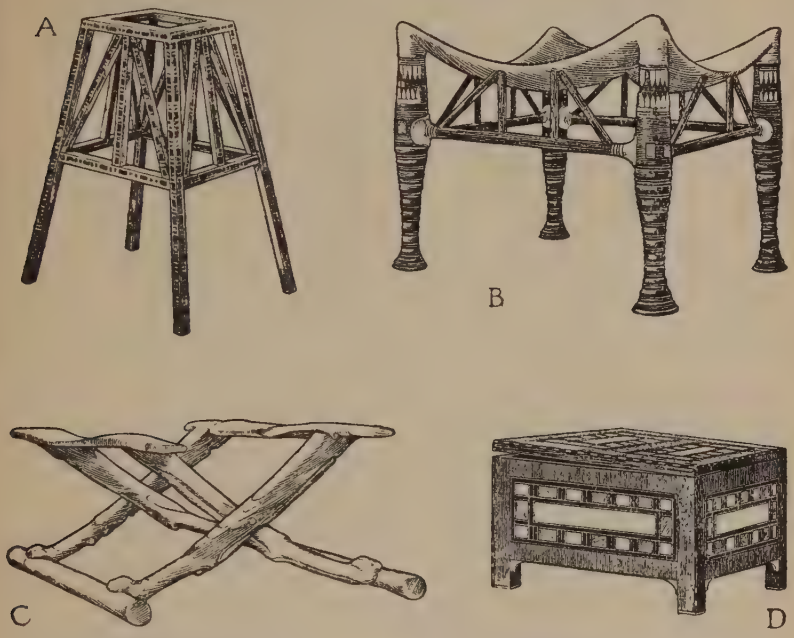
Though much of the Egyptian work was in the round, and evident of great sculptural ability and appreciation of form, yet generally their decorative work may be described as a colour style, rather than one in which light and shade were important factors.



No. 12. Egyptian Capital from Philae.

With regard to the domestic life, the examples of furniture in the British Museum convey some idea, and these bear a remarkable similarity to forms with which we are familiar at the present day, both in detail and construction, which is simple and direct, with mortise and tenon joints. Turning was frequently employed, and, in the decoration of

furniture, inlays of ivory, ebony and glass, the Egyptians being expert workers in both glass and enamels.



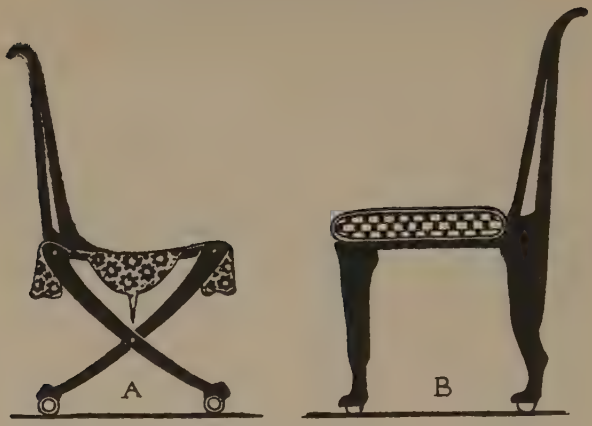
No. 13. Egyptian Furniture.
A. Stand Inlaid.
B. Ebony seat inlaid with ivory.
C. Folding stool.
D. Ebony box inlaid with porcelain and ivory.

Illustrations taken from bas reliefs and wall painting give a good idea of the furniture, which is often depicted as gilded.

The Egyptian couch was straight like an ottoman. Sometimes the couch took the form of an animal with the head and tail at either end, and the legs and feet carved to complete the effect.

Chaldean

Chaldean art in character had much in common with that of Egypt, the difference being more that of



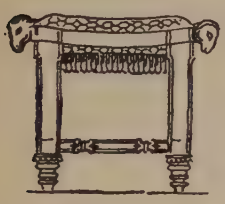
No. 14. Egyptian Chairs.
A. Wall painting in British Museum, B.C. 1500-1400.
B. „ „ at Thebes.

expression than in idea, probably due to intercourse and mutual influence. The buildings, which were mostly in brick, often faced with a form of terra-cotta, stamped with relief or ornament, were pyramidal in general form, raised on terraces forming a succession of platforms, approached by steps or inclined planes. Columns were employed, but the capitals were distinctive in the use of volutes culminating in the Persian renderings at Persepolis.

Compound animal and human forms, analagous to the Egyptian sphinx, were employed, such as the winged lion and bull with human heads, generally to flank the gateways. Wall pictures in low relief formed part of the interior decoration, these being arranged in successive rows and representing historic episodes were, like the Egyptian decoration, probably coloured. A prominent detail in the decoration is that of the date palm which, symbolical in meaning, was the prototype

of the Greek anthemion ; the volute also occurs in much of the decoration in the form of the evolute scroll.

Our conclusions regarding Assyrian woodwork are drawn from the sculptured bas-reliefs of stone or alabaster with which the Assyrians faced their brick structures internally and externally. The examples in the British Museum are about 888 B.C.



No. 15. Assyrian Seat.

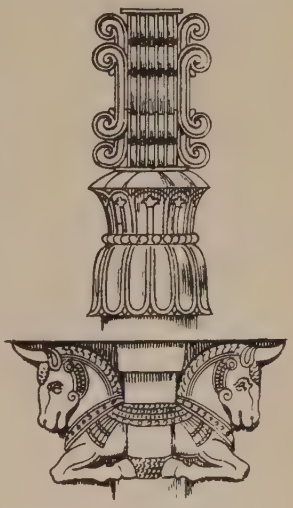
Furniture, such as tables, thrones and couches, was evidently made of wood, and was probably inlaid with ivory and other precious materials.

On the monuments of Khorsabad representations have been discovered of chairs, supported by animals and human figures. The intention in the use of figures was probably to depict prisoners taken in war.

Chairs, thrones, stools and tables were square in shape. The ends of the rails and legs were carved, and the ornamentation employed for these and similar positions included the heads of lions, bulls and rams, the sacred palm and pine cone.

The seats of chairs and thrones were much higher than is now customary, and necessitated the use of foot-stools. In some cases both chairs and tables were made to fold on a central pivot.

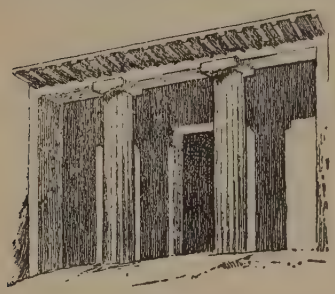
In some cases metal was used either for part or for the complete structure.



No. 16. Capitals from Persepolis.

Exact chronology is a matter of surmise, but at an early period, about 4000 B.C., in the valley of the Nile and in Mesopotamia, civilization had attained a very high level, extremely favourable to the development of architecture and the artistic crafts.

The early Greeks, as a result of the peculiar formation of their coast line, like the later Scandinavians, were adventurers on the sea, piratical and trading, and were thus brought into communication with, and influenced by, the arts of Egypt and Chaldea.



No. 17. Early Treatment of Doric Order. Tomb of Beni Hassan.

Greek

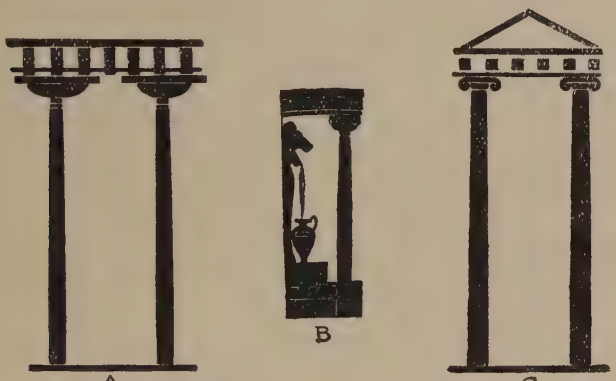
Though, in their architecture, the Greeks progressed no further than the Lintel, yet they must be credited with the development of the system of the orders, which formed the basis of subsequent styles.

The two prominent orders were the Doric and the Ionic; the former has its prototype in the tomb of Beni Hasan, the date of which is 1740 B.C., while the latter is evidently derived as to the voluted form of the capital, from Assyrian and Persian originals.

No. 18. Early anticipation of Ionic Order. Tomb at Kyanea-Jaghu.

The capital of the

Corinthian order may be considered to be a development of the Egyptian Papyrus form, the earliest features of both consisting of an inverted bell-shape decorated with leaf-like detail.



No. 19. Greek Vase Paintings. A. Doric columns. B. Wall fountain. C. Ionic columns with pediment.

Characteristic Greek details, such as the Anthemion and wave scroll, are traceable to the same sources.

Their architectural work, which was monumental in character, was mostly manifested in the temples, the domestic buildings being relatively unimportant.

Some idea as to these may be gathered from the vase paintings in the British Museum, on which they appear simple in form, mostly Doric in character, and probably of wood construction, the metopes in the frieze being open spaces for purpose of interior lighting.

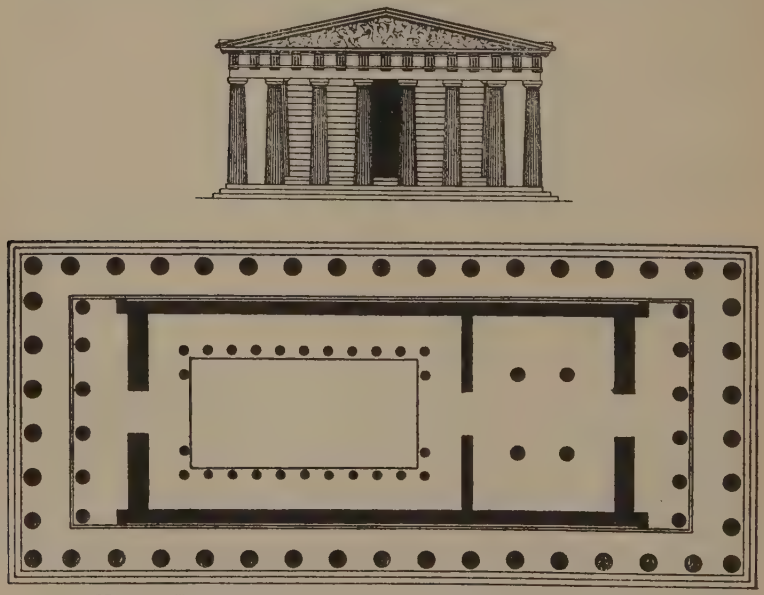
No. 20. Greek house about 100 A.D. Bas-relief in British Museum, Bacchus visiting Icarius.

Though the Greeks invested many of their creations with Epic and Symbolic meaning, much of their ornament was purely æsthetic.

The sculptured metopes of the Parthenon, representing the conflict between the Lapithae and the Centaurs, are an example of the Epic treatment.

The Sphinx, borrowed from Egyptian art, was, however, invested with a different meaning, and is an example of the Symbolic class, which formed so large a part in Greek art.

Greek architecture differs from preceding styles in the development of mouldings, and the exterior columnar effect. The mouldings in the Ionic and Corinthian phases were enriched with carved details, probably developed from or suggested by earlier painted decoration.



No. 21. Front elevation and plan of Parthenon, Athens

No. 22. Greek Ionic Erectheum, Athens.

The Doric style was presumably so decorated, with painted details on the ovolo and abacus of the capital, and the corona and other members of the cornice.

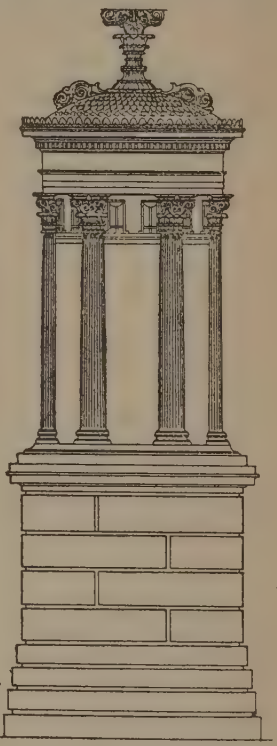
Colour was employed on the backgrounds of the metopes, mostly blue and red, resulting in an alternation of colour with plain stone areas; the colour decoration forming horizontal bands.

One important development, due to climatic conditions, was the pitched roof, which entailed the end walls being carried up in triangular form (literally gables), which were framed by the upper members of the entablature.

This feature, technically known as the Pediment, was in buildings of importance invariably filled by sculpture, Mythological or Epic in subject, designed to occupy the shape.

The styles mostly employed were the Doric and Ionic, and these were exploited contemporaneously, the Parthenon, 430 B.C., representing the culmination of the former.

Of the Corinthian style—comparatively little used by the Greeks, though much employed and developed later—the Choragic monument at Athens, 330 B.C., is the most complete example, though the leaf capital was anticipated in a simpler form in the earlier Tower of the Winds.

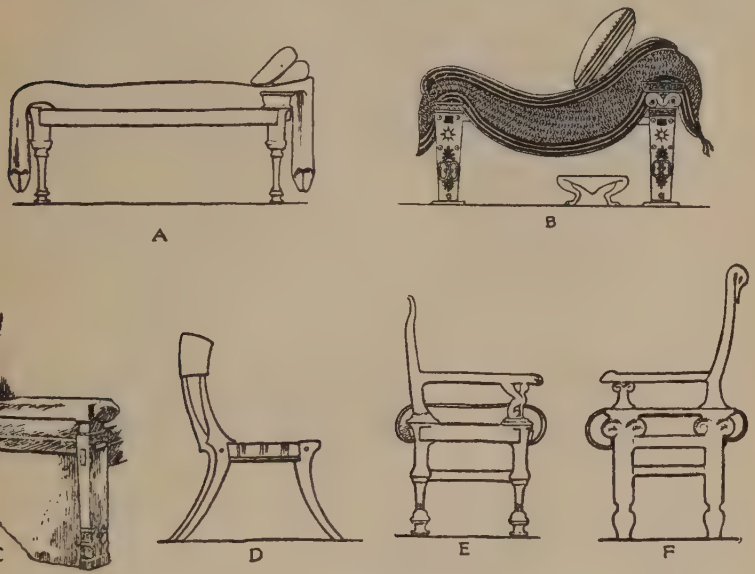


No. 23. Greek Corinthian, Choragic Monument, Athens.

The earliest representations of Greek furniture are to be found in the Syrian Room at the British Museum. These are the chairs dated about 6 B.C., in which the antique figures are seated. The backs are perpendicular, and the frame pieces of the seats are mortised into the legs.

The Greek couch was not unlike the modern sofa. It was used for sleeping and resting. Chairs and stools were sometimes made of metal, and were often of a folding type.

Tables were constructed in various shapes—sometimes the supports were fashioned as heads and legs of lions and leopards, and sometimes as sphinxes with lifted wings. In common with other pieces of furniture, they were made in wood, metal and marble.



No. 24. Greek Furniture.

A. Couch or bed, Archaic Etruscan.
B. „ „ Vase painting.
C. Archaic chair, 580-520 B.C.
D. Chair from Hydria.
E. } Archaic chairs, Harpy Tomb, 500 B.C.
F. }

The vase rooms of the British Museum provide considerable matter for study with regard to the details of Greek furniture, couches especially are frequently depicted.

The Greeks were expert workers in cast bronze, as is evidenced, not only by their statuary, but in many utensils of domestic life, notably the oil lamps, which were also in many instances modelled in terra cotta.

No. 25. Greek Pottery.

A. Kelebe (mixing bowl), 6th century B.C.
B. Lekythos (oil bottle), Athenian (about) 450 B.C.
C. Mastos, coloured black, red and white.
D. Hydria (pitcher), 350-250 B.C.
E. Kylix (goblet), 520 B.C.

Soon after the sack of Corinth in 140 B.C., Greece became a Roman province, and the Greek art workers eventually found more encouragement from Roman patronage than in local requirement.

They therefore went where their work was appreciated and rewarded, thereby effecting a potential influence in the art and work of their conquerors.

Roman

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Originally there were no special native characteristics by which Roman work could be distinguished, as the Romans absorbed various influences from the races that they conquered. Their conquests extended East and West, and from these widely differing outside influences the Roman style developed.

The Romans, who by temperament, were great soldiers, organisers and engineers, rather than artistic, in their early essays in architecture were influenced by Etruscan work.

Etruria (now Tuscany) is presumed to have been a Greek colony, and the local style, a form of debased Doric, was adopted by the first Tarquin (who was of Etruscan origin) and introduced to Rome about 610 B.C.

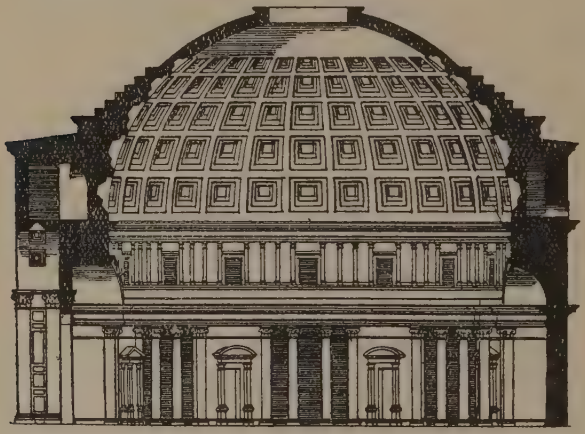
With the growth of the Roman Empire, and its consequent wealth and development of luxury, great impetus was given to building and the arts generally.

The orders based on the Greek originals were developed in detail and proportion, particularly in the latter respect. Whereas in the Greek Doric the height of the column varied from about four, to six and a half diameters, the Roman version became more slender, being about eight diameters in height.

The Corinthian order, perhaps, underwent the greatest change, a change that has practically remained unaltered to the present day.

Vaulting

The most significant development in building was the Arch and subsequent vaulting, by means of which extensive covered areas were rendered possible. The Pantheon at Rome is covered with a hemispherical vault or dome 139 feet in diameter.



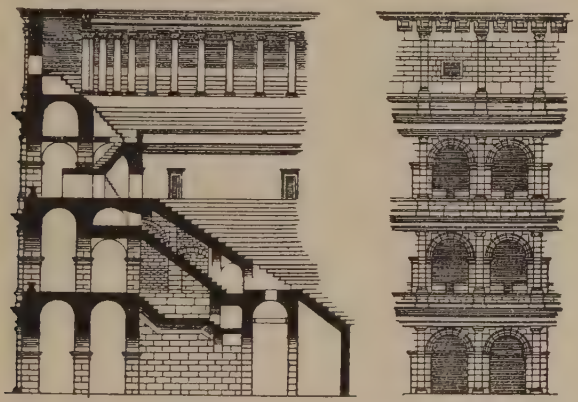
No. 26. Section and interior elevation of Pantheon, Rome.

The dome, which is interiorally occupied by radiating and horizontal ribs, resulting in five horizontal rows of cassons, or coffers, is really a casting in cement ; and in principle is identical with the present method of building, in which concrete or cement forms a considerable part in construction.

Apart from other reasons, the Arch was necessitated by small material, which, in the case of the Lintel, could not be employed without the device of joggelled

joints. In the absence of suitable material to cover spans, it became necessary to devise some means to the desired result. This was achieved by bridging the span with separate pieces of material cut to the necessary wedge form.

The Arch was first applied to such useful and necessary buildings as the Cloaca Maxima, to aqueducts, bridges, and viaducts, from which its firm construction and power of resistance were found to be applicable to buildings of many storeys.



No. 27. Coliseum, Rome. Section and part elevation showing arch and vault construction.

Greek Influence

Apart from the early employment and development of the Arch, the Romans were content to borrow their architecture from outside sources, and also were indebted to the Greeks for their ideal expressions in poetry, art, even to religion, whose gods they invested with different names.

Notwithstanding, the Roman development in architecture was undoubtedly dignified and grand in

manner, particularly in their treatment of the Corinthian order.

With regard to detail, much of the delicacy and refinement of the Greek character was lost, yet this

No. 28. Arch of Titus, Rome.

was compensated by greater variety and freedom of treatment, especially in the development of the Acanthus type of foliage.

Development of Ornament

Decoration was more generally used, pilaster and other panels being occupied with ornament arranged on growth lines, mostly composed of undulate stems, with scrolling branches, clothed with conventional leaves and flowers.

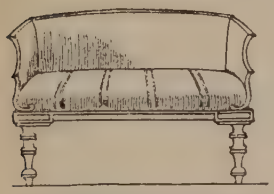
There was also a tendency to employ occasionally

natural types in foliage, and further variety was obtained by the introduction of human and animal form, which, though originally significant, were used for their æsthetic value.

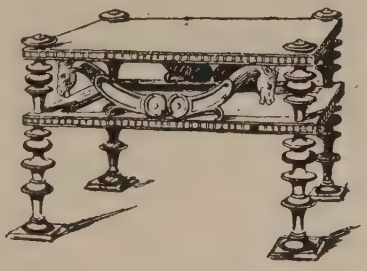
No. 29. Typical Roman Ornament.

The Roman domestic life was materially different from the Greek, and while they had their Temples, they also had their palaces, public halls and baths, besides the amphitheatre and the circus.

Excavations at Herculaneum and Pompeii have thrown considerable light on the domestic life of the Romans—their dwellings, decorations and furniture.



No. 30. Roman couch. Sepulchral urn, British Museum.

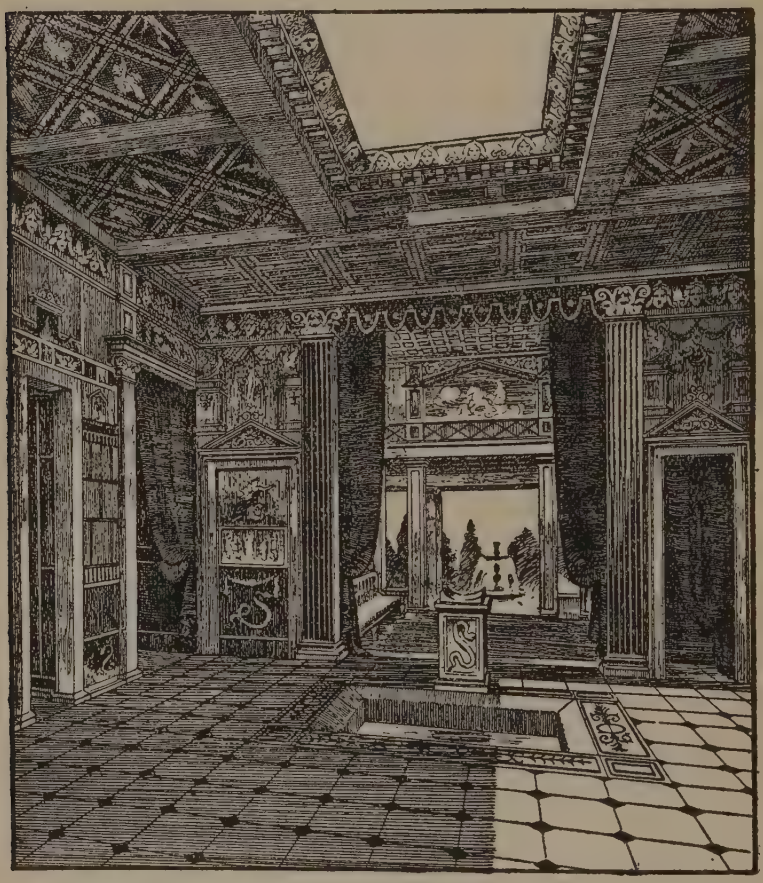


No. 31. Roman Sella.

Græco-Roman Painted Decoration

In the luxurious life of the Romans colour

decoration played a conspicuous part, as is evidenced in the painted work of Herculaneum and Pompeii. In this, which is generally known as the Græco-Roman period, the interiors were decorated with paintings, the general scheme being based on an architectural setting, the wall areas being divided into bays by slender columns, sometimes by pilaster panels, with plinth, or dado,



No. 32. Graeco-Roman Hall in house of Sallust, Pompeii.

No. 33.

frieze, and cornice, the prevailing colours being red, buff and black.

The decoration of the frieze in many instances suggested openings, through which distant vistas could be seen. The bays or spaces between the apparent dividing supports were further decorated with small panel pictures with frames; generally the supports were united by festoons or scrolling detail, the whole expressed by painting in colour without actual relief.

The use of glass for glazing windows was employed

No. 34.

in the later period; that the Romans were expert workers in glass can be verified by the examples in the National collections.

For artificial lighting of interiors oil lamps were customary, which were boat shape in form, sometimes used in groups or clusters suspended from branching stems or supported on tripod standards. These were invariably in cast bronze, though terra-cotta was also used, but in either material were extremely beautiful in form and detail.

HISTORIC REVIEW

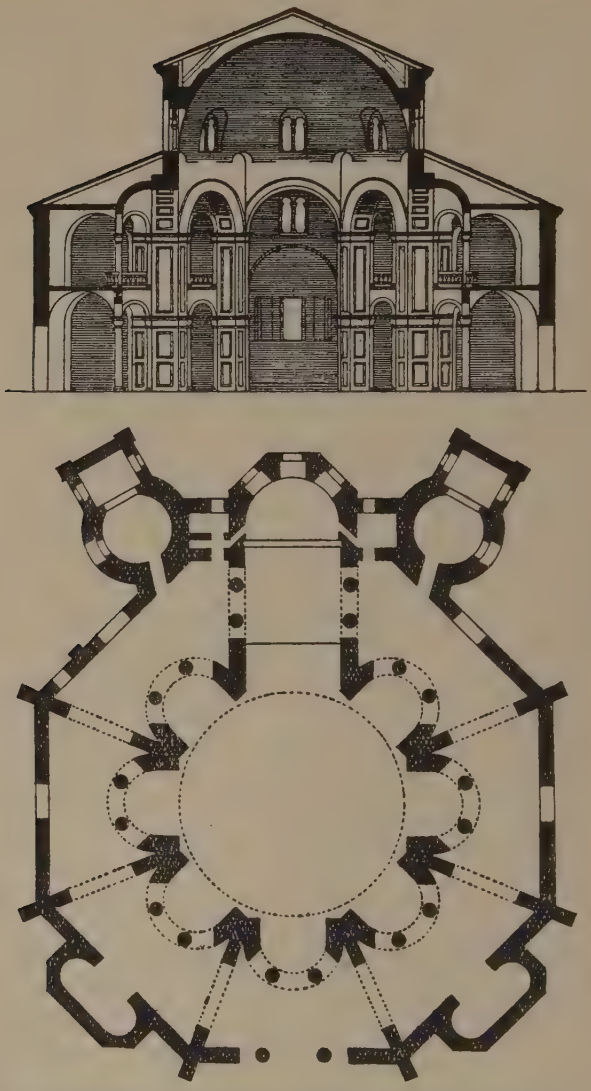
In any attempt to review the past, it is difficult to visualise the actual life at the back of the pageantry, with which we are naturally prone to be obsessed, in history as written ; but the exhibits of the various domestic appliances of the Roman period at the British Museum are of considerable interest, and a scrutiny of these cannot fail to bring the individual to a closer understanding of the times and people.

At Byzantium or Constantinople, the capital of the Eastern Roman Empire, a distinct style developed out of a curious mingling of the characteristics of East and West ; and it was marked particularly by a grafting of earlier Greek detail on to simplified Roman forms.

The establishment in 330 A.D. of Byzantium or Constantinople as the Eastern capital of the Roman Empire and the recognition by the state of Christianity resulted in a great change in architecture and the associated crafts. Prior to this the early Christians had been compelled to hold their meetings secretly, and when this was no longer necessary they at first utilised for their public worship the existing Basilicas or public halls. Later on churches were built, the plan being arranged in the form of a Greek cross (*e.g.*, with equal arms), surmounted by a central dome.

Domes

The dome was supported on four piers, united by arches, and the change in plan from these piers to the dome necessitated vaultings from the inner angles to reconcile the diagonal dimension to the diameter of the imposed circle. These vaultings spreading from the angles are technically known as Pendentives. The



No. 35. Byzantine. Section and plan of St. Vitali, Ravenna.

No. 36. Byzantine Capitals from Ravenna.

four arms of the cross constituting transepts, nave and chancel were also surmounted by either complete or semi-domes.

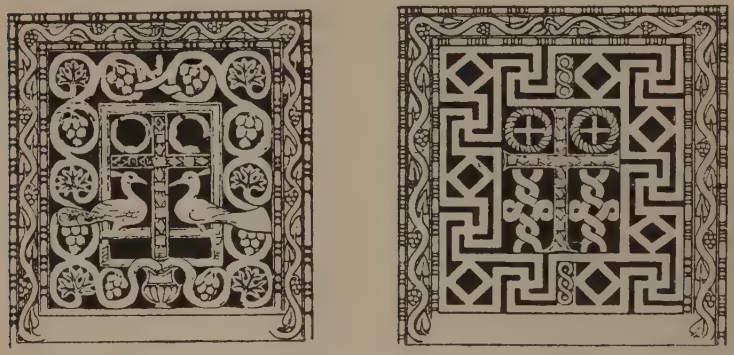
The Byzantine dome differs from the Roman type in matters of detail, thus the interior surface is plain instead of the intersecting ribs with resulting coffers as in that of the Pantheon. In this latter the lighting of the interior is accomplished by a central opening or eye, but in some Byzantine examples, notably St. Sophia (built for Justinian by Anthemius) the lighting is the result of windows ranged round the base, constituting what is known as the ariel type of dome.

The dome of St. Sophia is segmental instead of hemispherical as in the Pantheon, being only one-sixth of the diameter in height, the diameter being 106 ft. $7\frac{1}{2}$ ins.

The architectural features generally were considerably modified, particularly with regard to mouldings, which were almost eliminated. The entablature was also at times dispensed with, and arches springing direct from the capitals of supporting columns were general; a feature which is characteristic of the later Romanesque. The capitals became simple in form, being mostly inverted pyramidal or cushion shapes, in which the abacus is considerably enlarged and as a rule unmoulded.

The carved details reveal simplicity of execution, being merely cut back from the surface, the relief being uniform and greatly in contrast to the plastic feeling of the Roman work. Though the leaves employed were of the acanthus type, they were quite devoid of modelling, being merely channelled with V-shaped

grooves ;| the eyes between the lobes being round and suggestive of the use of the drill, the execution being a reversion to the archaic Greek.



No. 37. Byzantine Panels. St. Appollinare, Nuovo, Ravenna.

Early Christian Art

A notable feature in the Byzantine detail is the prevalence of the circle, frequently grouped in three, four and five, with the respective significance of the Trinity, the Evangelists and the Cross, or Five Wounds. The grotesques of the Pagan detail are conspicuously absent, giving place to forms more in keeping with the new religion, such, for instance, as the cross and the vine.

It is questionable if the polytheism of the average cultured Roman was taken very seriously, but incidental to the religious observances were certain rites and symbolic forms, with which the Christians were familiar, and the early preachers evidently found it a matter of policy to invest some of these with a new meaning. During the period of intolerance and persecution, signs and symbols grew in importance as a

No. 39. Byzantine Interior, Ravenna.

No. 40. 5th Century Mosaic Work in the Baptistery at Ravenna.
From a Drawing by Miss Dora Bard.

means of secret communication ; and in the later period when secrecy was no longer necessary, these became a corporate part of the ornament and decoration.

No. 38. Byzantine Panel from the sarcophagus of St. Theodore. St. Appollinare in Classe, Ravenna.

In contrast to the Roman ornament, in which the effect depended mostly on light and shade, the Byzantine was a colour style, and it became customary to line the walls of the principal buildings with marble slabs quartered and placed reciprocally, so that the figurings formed symmetrical patterns. Mosaic work, either of marble or glass, constituted the decoration in such suitable positions as the floors, spandrils, lunettes and domes, gold being largely employed in the backgrounds. Windows, at times large in area, were glazed as in Roman times with cast slabs of glass, set in metal frames, usually bronze ; and thin slabs of translucent marble and onyx were also used for glazing purposes.

Metal Work and Enamel

The Byzantines were also expert carvers of ivory and workers in metal, decorated in repoussé and with wire filigree ; the metal work was invariably set with jewels and precious stones, in conjunction with champleve enamel, the whole being gilt.

As a result of the Iconoclastic movement, and the decree of Pope Leo III in 726 A.D., the art workers,

deprived of local patronage and compelled to pursue their crafts elsewhere, migrated to the Rhine district, where for some centuries the Byzantine traditions were preserved and largely influenced Western art, particularly with regard to the working in metal and enamels. The attraction of the centre of the Eastern Empire for northern adventurers had its effect in the introduction of the Byzantine style into the detail of the different phases of the Romanesque.

No. 41. Champleve enamel Byzantine tradition.

The tradition thus becoming widely known was finally absorbed by local craftsmen and modified according to local conditions, with the result that both in expression and in execution, the style tended to become more and more crude, until the original forms and details were almost entirely lost. But in spite of changes the classic feeling never completely died out.

Roman Influence Abroad

Under the Roman system, in colonizing, their architecture, customs and laws were imposed on the conquered population. When later, under stress of events, the governing bodies and military forces had to be withdrawn, these left behind them universal traces of their occupation and influence. The inhabitants of the provinces thus abandoned and thrown on their own resources, were immediately menaced by invasions, which had been hitherto kept in check by the armies of occupation, and for some protracted period ensued a condition of unrest and conflict, under which the arts naturally suffered. Eventually, from the chaos emerged a native manner of building, which, though rude and coarse in execution, was based on the Roman tradition.

Romanesque Style

The transition thus brought about is known for convenience as Romanesque. Its most typical exponents were possibly the Scandinavians, whose Christianised descendants, the Normans, preserved the same tradition. The work of the Saxons in England, although stimulated by the same influences, was much cruder in execution.

This period was not remarkable for great artistic development, and luxury in any form was practically non-existent.

Notwithstanding local character, the prevailing features are similar, in that the round arch is employed, supported by columns or piers, from which the arches spring direct, the entablature being eliminated.

The columns are squat in proportion, and surmounted

by capitals of truncated cone or cushion shape, the abacus being deep and square in plan.

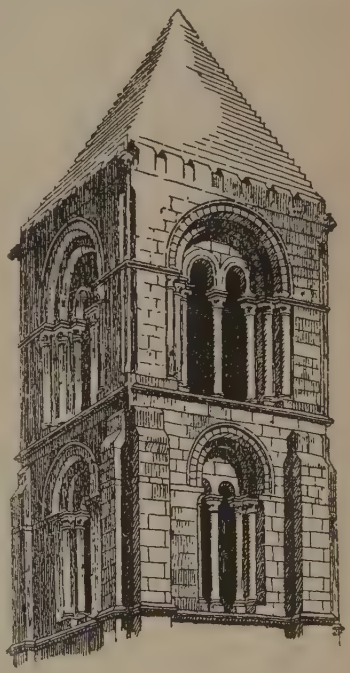
No. 42. Romanesque Capitals from Cloister, St. Guillem du Desert, Herault. Reminiscent of Roman Corinthian.

Mouldings were little used, and the archivolts were formed in a series of recessed bands, either plain or decorated. Distinct from the Byzantine style, the Romanesque depended for effect upon contrast of light and shade. Details were carved, and rude in execution, preserving to some extent the Byzantine feeling, the prevailing ornament being the undulate stem, with scroll branches, clothed with leafage, simply channelled or grooved, but less spikey in form.

Church Development

Of the buildings of importance of this period the churches form the most interesting examples of development. The usual plan consisted of an oblong nave with side aisles half its width and height.

At the end of the nave, projecting transepts separated

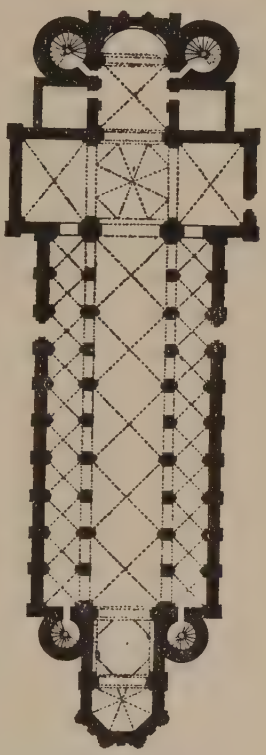


No. 43. Romanesque Tower, Thaon, Normandy.

it from the chancel (which is generally raised in level), continuing the line of nave, the whole taking the shape of the Latin cross in contrast to the Byzantine plan; the chancel end facing East, the nave West, and the transepts respectively North and South.

A feature of this period is the Apse, a semi-circular extension of the choir or chancel; when the side aisles were extended to the latter they formed what is known as an ambulatory, or passage way, round the choir, within which was the altar, and the stalls for monks and clergy.

The Narthex or atrium, of the basilicas, utilised by the early Christians for their public worship (to which were admitted those outside the community) was abandoned, its place being taken by the West entrance or porch, enclosed between two towers.



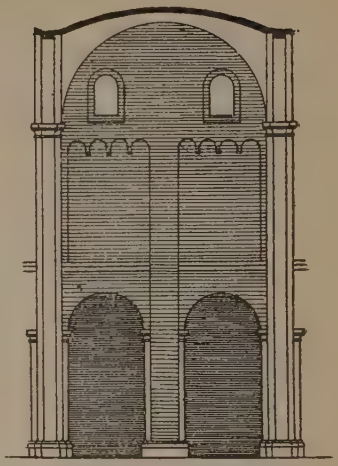
No. 44. Romanesque plan of Cathedral, Worms.

The upper walls of the nave were carried on arches supported by columns, which constituted the division of the side aisles; these latter being formed by vaultings from the nave columns to the outer walls, the vaulting being roofed over.

The upper part of the nave was pierced by windows, small and comparatively narrow, with semi-circular heads forming the Clerestory. Similar windows in

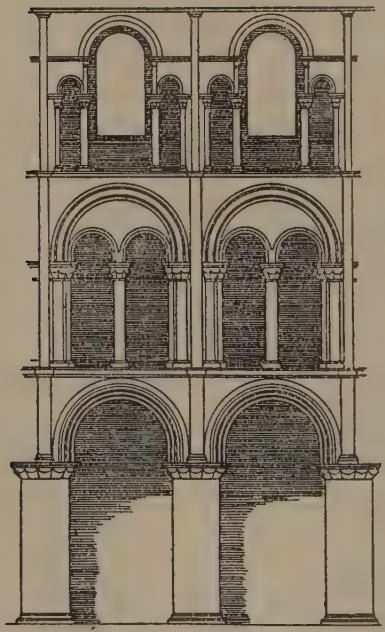
some instances occur in the aisles, the jambs of these windows being bevelled both inside and out for the freer admission of light.

The nave was roofed in with timber, but as the result of frequent destruction by fire, the roof was eventually vaulted; in early examples by the barrel or tunnel vault, but later this developed into cross-vaulting, which was also introduced into the side aisles.



No. 45. Romanesque, bay of interior, Worms Cathedral.

In the early churches of this period the walls of the nave were unbroken except for the upper windows. With the development of vaulting, the space above the aisle

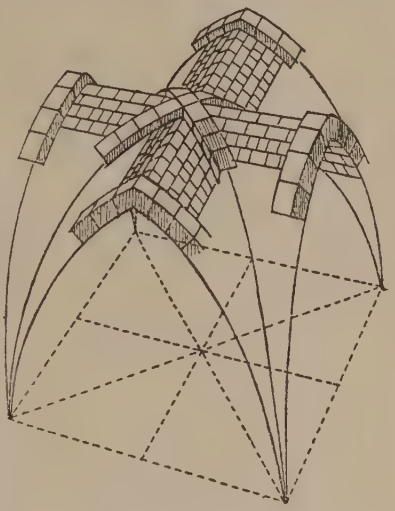


No. 47. Romanesque Church interior with Triforium.

No. 46. Romanesque Window, St. Alban's Abbey.

vaults and the covering roof was used as a gallery known as the Triforium. This was not lighted from without, and was a distinguishing characteristic of the Romanesque and early Gothic styles.

The introduction of vaulting in the roof of the nave entailed supports for the arch bands or vaulting ribs, which were carried on pilasters or half columns, dividing the interior, facade into bays.



No. 48. Construction of intersecting vaults.

Dark Ages

The unsettled condition of Europe, both before and after the final subjugation of the Roman Empire by Charlemagne in 774 A.D., was necessarily detrimental to artistic progress, and the period to the fifteenth century may be truly described as the dark ages as regards the arts and culture in general.

Such literary knowledge as survived was mostly confined to the priests, and under the monastic and feudal systems that prevailed the bulk of the people were kept in ignorance and subjection.

Building was devoted almost exclusively to fortresses and churches, the domestic conditions being extremely crude as compared with earlier periods, though Eastern luxury must have been known and experienced by the alien adventurers to the Byzantine courts.

This was a period of reversion to comparative barbaric taste by people indifferent to refinement and luxurious environment, to whom, however, personal

No. 49. Romanesque, south door Kilpeck Church, Herefordshire.

adornment would appeal in the form of jewellery and sumptuous attire.

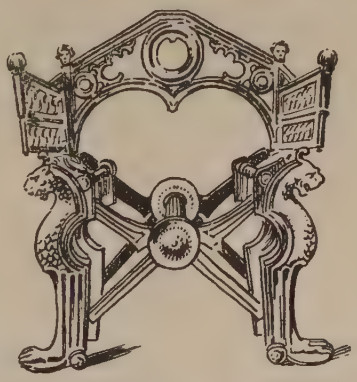
Domestic arrangements were simple in the extreme. The dwellings of the well-to-do in England, similarly to those of the Scandinavians, consisted principally of a barn-like hall. The centre of the hall was occupied by a long table, and at one end raised on a platform or

dais another table was placed in the opposite direction. At the latter sat the most important members of the household, while the lower part was reserved for retainers and servants. Heavy chairs and settles were used at the upper table, and benches or forms at the lower.

Walls, when covered at all, were adorned with hangings, but then only at the dais end of the hall. Fireplaces in the modern sense were not known. The fire was built on the floor, and the smoke allowed to escape as best it might.

Arrangements for sleeping were no more complex than those for dining. Beds were provided only for persons of distinction, and were placed in recesses screened off from the hall by curtains or shutters. They were, in fact, little more than wooden boxes, with sacks of straw to serve as mattresses.

Later, bedsteads were used of massive construction, which on occasions of journeying were placed on wheels, forming a sort of coach or carriage ironically termed whirlicots, in which the aged and infirm were transported.



No. 50. Chair of Dagobert, French 7th century, bronze.

For some time after the Norman Conquest the unsettled state of the country rendered it necessary that household effects and valuables should be few in number and of such a nature as to be easily transportable. Thus chests in which

belongings could be stored came into general use. They were simple in construction, and without carving, but were strengthened and decorated by hinges and scroll strappings in iron. Such chests served a double purpose, as they could be used as tables and seats.

No. 51. 14th Century Textile Sicilian tradition.

For convenience of transport, chairs and stools were made with projecting tenons secured by pins or wedges so as to be easily taken apart.

Crusades

That the Crusades were incidental to the importation of examples of Eastern art, is evidenced by the celebrated cup of Eden Hall, on the safe preservation of which depended the worldly welfare of the owners, according to the couplet :

> " If that cup either break or fall,
> Farewell the luck of Eden Hall."

This cup is of Saracenic origin, and is of glass, painted in enamels, similar in character to the mosque lamps in the British Museum.

Tapestries of Sicilian manufacture were also introduced through the medium of the Crusades, and led

to the employment of painted wall decoration, evidently in imitation, even in some instances to indicating the folds of the material.

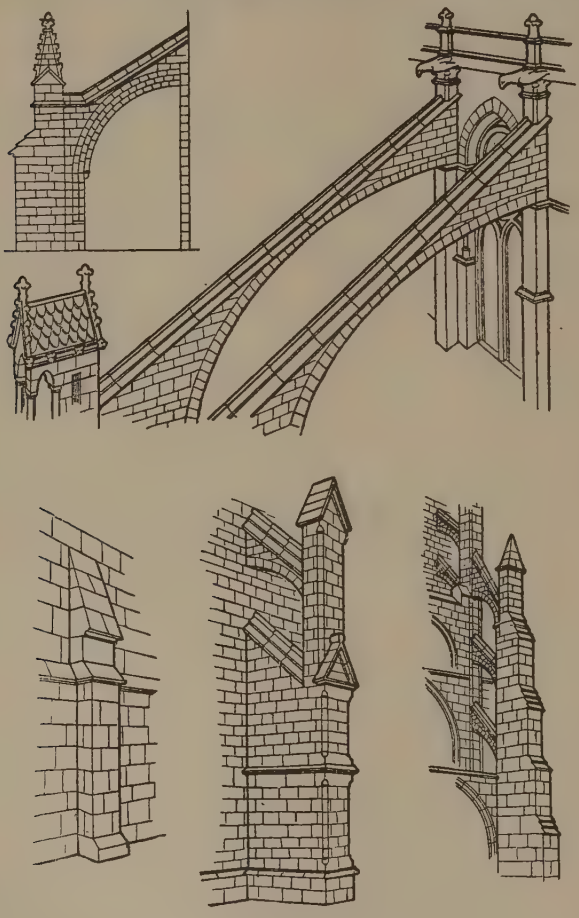
No. 52. Sicilian Textile.

A precept exists in the twentieth year of the reign of Henry III directing "that the King's great chamber at Westminster be painted a good green colour like a curtain," and "that the King's little wardrobe should also be painted of a green colour to imitate a curtain."

This was undoubtedly suggested by the custom abroad of draping the walls with tapestries, though carpets were unknown. Probably the first time these were seen in England was in the apartments in the Temple occupied by the suite of the infant Don Sancho, archbishop elect of Toledo, who with Don Garcias Madinez, officiated as *avant-courriers* to Eleanor of Castile in the autumn of 1255.

Pointed Arch

The origin of the pointed Arch, which is the chief characteristic of the Gothic style, is much disputed,



No. 53. Types of Buttress.

but there is ample evidence that the new departure appeared almost simultaneously in different parts of Europe soon after the First Crusade. It is reasonable

to assume that this particular form was suggested by examples in Syria, where arches elliptic and even ogival in shape were employed.

Though not common in Roman work, the pointed Arch was employed in the Aqueduct built to supply Constantinople with water, completed under Valens, 364-378 A.D., by which it is probable that the Saracenic work was inspired.

Whatever the origin, the innovation was found to be economic, and more sound in construction than the older prevailing method. It was also more flexible in design, as apertures of varying dimensions could be spanned with arches equal in height, which is not possible with the semi-circular form, except by the expedient of stepping.

Further strength was imparted by the employment of buttresses on the outer walls, as well as at the angles of the building.

Gothic Style

In France, England and Germany the Gothic style superseded the Romanesque with varying phases of transition, and with local development of character. In Spain the Moors had established a system of architecture thoroughly Eastern that was but little affected by the Gothic style, the influence of which is apparent in the later Spanish rendering of the Renaissance.

In Italy the Gothic attained but slight development in comparison with more northern and western treatments, at least from a structural point of view. The Italian phase known as Lombardic is conspicuous for the evidence of Eastern and Byzantine traditions.

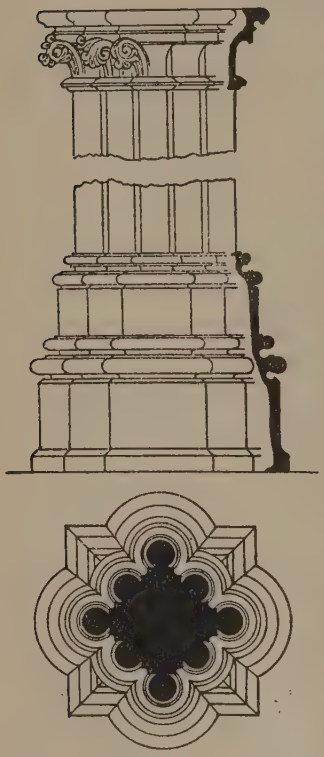
Phases of Gothic

The phases and dates of the Gothic style in England are as follow, and lasted well into the sixteenth century, with periods of transition :

Early English or Pointed, 1189 to 1272. Transition 1272 to 1307.

Middle period or Decorated, 1307 to 1377. Transition 1377 to 1407.

Late or . . . . Perpendicular, 1407 to 1547.



No. 54. Early pointed Gothic Pier, elevation and plan.

In church architecture the general plan and essential features of the Romanesque style were preserved ; but there was a complete change in the details, as well as a general lightening of the whole structure.

The heavy columns or piers gave place to clusters of slender shafts, which supported the archivolts and vaulting ribs, these shafts being bound together at bases and capitals.

The Triforium was retained, the openings being arched and similar in detail to the windows.

Early Pointed

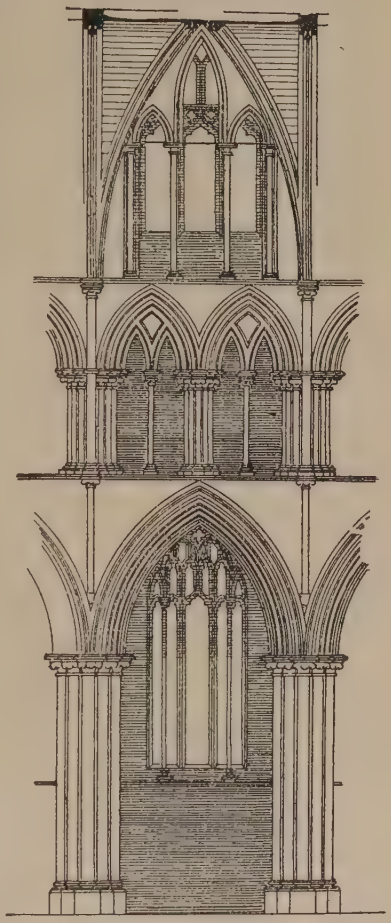
In the early variety of the Pointed Gothic the arches

were acutely pointed, technically known as "lancet," but later became more equilateral. The windows were narrow in proportion, and were single, or in groups.

Later they were divided into compartments, and the triangular head filled in with stonework, pierced with simple geometrical openings, known as plate tracery, thus forming a transition between the simple open lancet and the intersecting ribs, which constituted the true tracery of the later periods.

Commonly shafts of circular section, with caps and bases, were employed in the windows, both internally and externally.

Roofs were high pitched, and the ceilings vaulted, the vaulting ribs being moulded and decorated at the intersections with carved bosses.

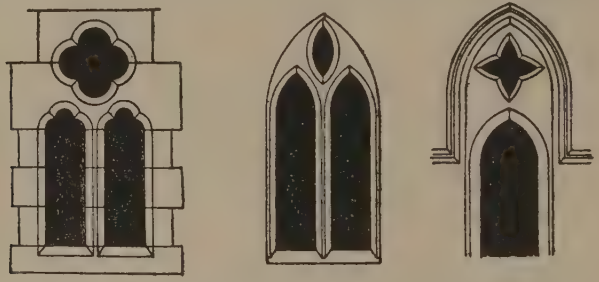


No. 55. Early pointed bay with Triforium. Window of Aisle is of later date.

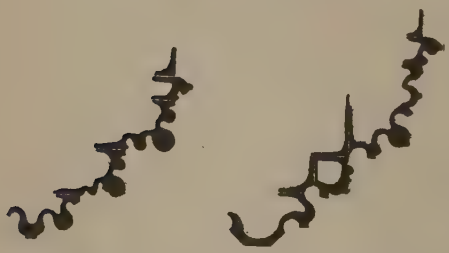
Mouldings were rich in effect, being composed of a succession of hollows or flutings, contrasted and divided by rounded ribs in relief.

No. 56. Early Lancet Windows. A. Canterbury Cathedral. B. Lincoln Cathedral. C. Salisbury Cathedral.

Carved detail occurs in the capitals of shafts, sometimes in leaf-like forms in the bases and in the mouldings, also in the crockets, and finials of the gables, and



No. 57. Early pointed Gothic Windows. Plate tracery.



No. 58. Early pointed Arch Mouldings.

pinnacles of the buttresses.

The ornament was extremely conventional, that on capitals, crockets and other free positions consisting of

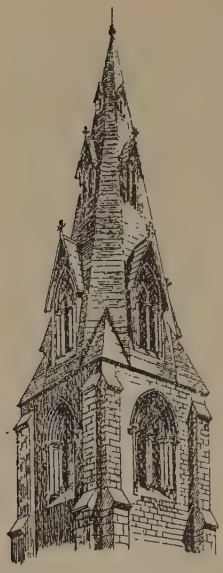
crisply curling trefoil or cinquefoil groups of lobes having little resemblance to natural type.

No. 59. Early pointed Gothic Capital.

The later windows became more elaborate in the tracery, which was essentially geometric, and further elaborated by cusping, Triforium arches and canopy heads being similar in design.

The central tower, which was common in the

No. 60. Pointed Gothic tracery Windows. A. Ely Cathedral. B. Meophan Church, Kent.



No. 61. Early pointed Gothic Spire, Warmington.

Romanesque, developed into the spire, which was carried to a great height; the lower part occasionally pierced with openings for purpose of interior lighting, forming the lantern.

Decorated Gothic

The principal characteristics of the Decorated period are the form of the Arch, the elimination of detached shafts and the enlarged clerestory with increased lighting area.

The Arch, when used structurally, was still of the simple pointed form, but in small windows, niches and canopies, the shape at the head became ogival and the tracery displays considerable license as compared with that of the preceding phase.

Mouldings were shallower as contrasted with the

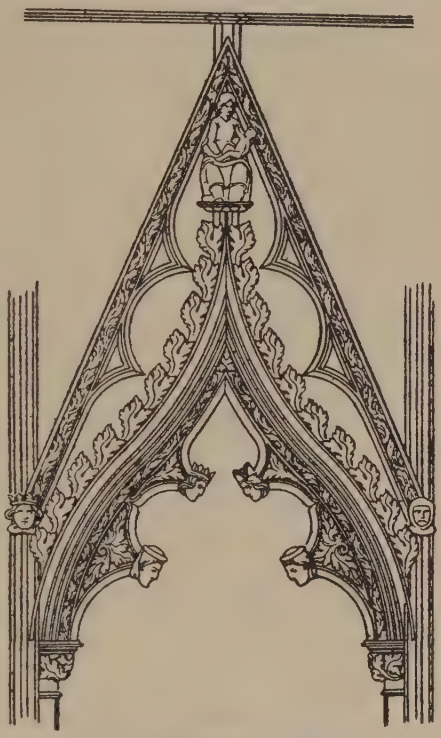
A B

No. 62. Decorated Gothic Windows. A. Merton College, Oxford. B. Cathedral, Oxford.

undercut hollows of the earlier period; in many instances the arch mouldings were merely a continuation of those of the supporting piers, which took the place of the earlier detached shafts.

The greatest innovation occurs in the foliage, in which natural suggestion is evident, adapted with considerable freedom, and skilful in execution.

In the preceding style the foliage of the capitals invariably sprung from the necking, in simple firm curves, revealing the underlying bell-shape. In the Decorated period the foliage generally wreaths round the structural form, the detail being frequently deeply pierced and cut away at the back till it was almost detached, giving an extremely rich effect.



No. 63. Decorated Gothic Carving, Chancel screen, Southwell Minster.

No. 64. Decorated Gothic Mouldings.

Diaper detail of pateræ, or foliage arranged in squares, occurs in the spandrils between arches.

A distinct feature of this period and of the succeeding Perpendicular style, is the battlement, which was

Nos. 65 & 66. Decorated Gothic Capitals, leaves deeply undercut and wreathed round bell.

No. 67. Decorated Gothic Spire, Whittlesea.

used in all suitable positions either as a parapet or as a cresting. The Decorated variety differs from the later, in that the moulded edges only appear horizontally, whereas in the Perpendicular period the moulded edge is continuous, being carried round the angles of the battlement.

Externally the spire gave place to the tower with culminating lantern.

During the period of the style known as Decorated Gothic, furniture was framed and panelled, and the details closely resembled those used in architectural decoration in stone.

The general effect of Decorated is a tendency to horizontal banding, in contrast to the vertical effect of the earlier period, to which eventually the later Perpendicular reverted.

Perpendicular Gothic

In the succeeding phase the Triforium which had gradually become less important, entirely disappeared and the clerestory windows enlarged, to the extent that this part of the structure became merely a frame for the increased glass areas.

It will be apparent from the foregoing that whereas in the early churches of the Romanesque period the interior effect was mysterious owing to inadequate openings for light, the later and growing tendency was to increase the lighting capacity by enlarging the windows of the clerestory.

No. 68. Perpendicular Gothic Bay shewing development of Clerestory.

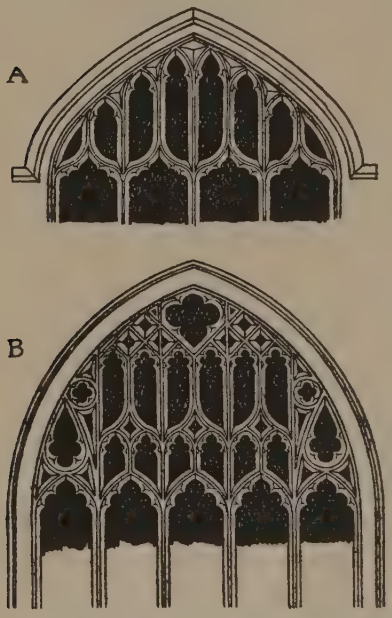
Glass Windows

Doubtless the development in the size of windows was due to some extent to the growing use of glass, which, though rare, was employed during the later Romanesque through Byzantine tradition.

These early windows were geometric in design, consisting of medallions, oval, circular or quatrefoil in shape, containing figure subjects set in a diapered background, the whole being executed in small pieces of coloured glass united by lead framings.

While the windows were single openings, this form of glazing necessarily restricted the size, though more adequate lighting was achieved by grouping two or more windows together.

With the development of tracery the technical difficulties were to some extent overcome; a window divided into comparatively small compartments could be more easily glazed than single openings of large size; thus glazed windows of greater dimensions were rendered possible.

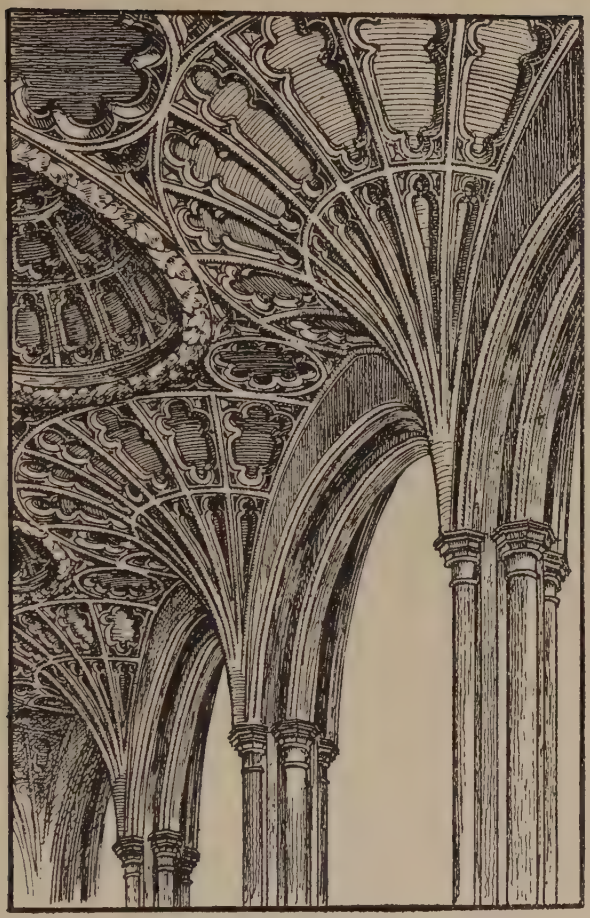


No. 69. Perpendicular Gothic Windows.
A. Aylsham Church, Norfolk.
B. King's College Chapel, Cambridge.

In the Decorated windows the lower lights were devoted to the subject, which in many instances was carried through the area, regardless of the dividing bars or mullions. In the Perpendicular each light or opening had usually its own subject or figure, surmounted by canopies, the upper spaces formed by intersection of the tracery bars were occupied by various details suitable to the different shapes.

The Arch of the Perpendicular style is materially different, being composed of elliptic curves struck from four centres.

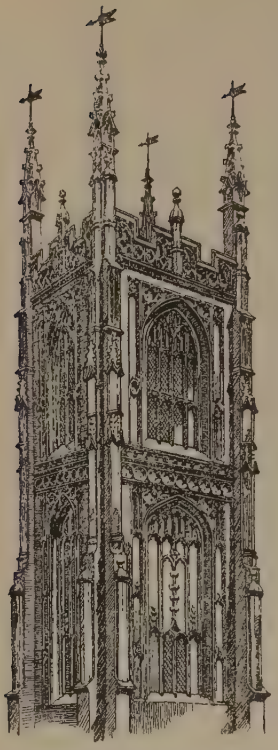
Mouldings became even more shallow in section, and the tracery less florid than formerly, though extremely rich in appearance when used in the profusion that developed in the fan vaulting of this period.



No. 70. Perpendicular Gothic Fan Vaulting.
St. Mary, Aldermary.

The foliation reverted to a more conventional character, and became lifeless and monotonous in comparison with the Decorated work.

It must not be assumed that examples in every instance will be found complete in any of these phases ;



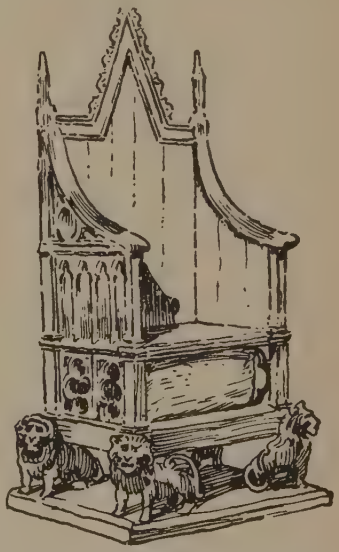
No. 71. Perpendicular Gothic Tower, All Saints, Derby.

on the contrary, the various styles are to be found side by side in the same building, the result of later additions or rebuilding.

Painted decoration and sculpture were also employed during the various periods ; wood-work where necessary was used, and in detail was in harmony with the architectural character of the period.

Civic Influences

The feudal period was not favourable to the development of domestic conditions, though considerable advance had been made by the fourteenth century, chiefly by the Italian states and in the principal cities. The importance of the latter is evidenced particularly in the City of London, with its merchant class and civic authorities, who, by



No. 72. Coronation Chair, Westminster Abbey, 13th century.

reason of their wealth, attained potential political influence, the prevailing contentious conditions necessitating the continual raising of large sums of money.

Such conditions were favourable to the merchants, who, acting as bankers, supplied the means, and thus a class was established and apparently lived in profusion and some pretention to sumptuous environment.

No. 73. Bedstead and Cradle from M.S. in Bodleian Library, 14th century.

Effect of Commerce

Similar conditions to those in England prevailed on the Continent with certain local variations. A big stride was made with the development of commerce, mainly through the agency of Venetian and Flemish merchants. The effect of increasing opulence was signalised by the appearance in the home of such comfort and refinement as had formerly been possible only for princes and great nobles.

No. 74. Fireplace, 13th century.

Among the luxuries imported were Oriental silks, carpets and pottery.

Italy

Whereas, throughout Europe generally, the Gothic

character in furniture and woodwork developed on similar lines, in Italy alone its appeal to the national sympathies was not strong enough for it to become thoroughly assimilated, and there the Byzantine style persisted.

The woods most in use were oak and chestnut. In Italy walnut and cypress were used—the latter being considered especially valuable for chests.

Early examples of Italian chests are decorated with closely spaced incised ornament, filled in with colour.

The Venetians derived from Persia and India a form of marquetry or inlay of ivory, metal and various woods, generally geometric in design. The wood used was stained in order to vary the colour.

Foreign Influence in England

Through the policy of seeking foreign princesses as brides for the English kings, foreign influences crept in, and had a marked effect on the development of style. Moreover, increasing commercial intercourse with the Continent paved the way for the introduction of the new ideas of the Renaissance then beginning to dawn in Italy.

The Wars of the Roses checked progress in many ways, but this was but the more rapid when peace was restored with the advent of Henry VII.

The House

There was a great change in the character of the dwelling-house, which though still built on defensive lines, was also arranged with a view to domestic comfort and convenience. The commonest form of plan

was that in which the buildings were grouped round a central court and surrounded by a moat. These buildings consisted of hall, parlour, kitchen and domestic offices. The hall itself was lofty, had an open-timbered roof, and was usually lighted from both sides. One end of the hall was invariably screened off, and as the screen did not reach to the roof the musicians' gallery was placed above it. The fireplace was set in one of the side walls. The windows, as a rule, had few lights, and these had pointed and cusped heads. The upper rooms were accessible by staircases.

A not uncommon feature on the upper floor was the long gallery, which generally traversed the whole length of the building immediately under the roof.

The rooms were panelled most often to about two-thirds the height of the wall, while the remaining third was of plaster.

The ceiling also was of plaster, which was moulded into intersecting ribs arranged geometrically, sometimes with stalactite pendents at the intersections.

Fireplaces were made of stone, and chimney-pieces sometimes of wood.

Furniture was beginning to assume some of its modern forms, as shown by the chairs, which were railed, and copied from Italian models.

Buffets or sideboards with closed cupboards were in use. Table legs were carved or turned, and connected by stretchers.

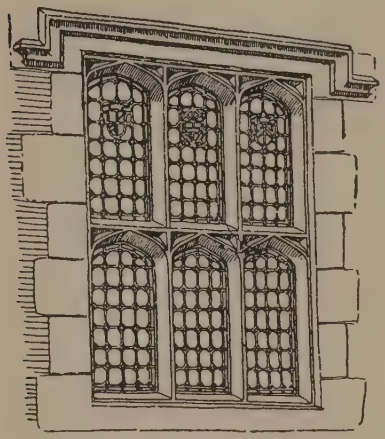
Windows were now glazed with leaded panes, and when made to open were of the casement type, with iron frames which were hinged and furnished with turnbuckle fastenings.

Doors seldom had locks, but usually shut with latches of wrought iron. The hinges also were of wrought iron, and though simple in form were often quite ornamental.

Henry VII and his successor were responsible for various country residences, an example which was followed by the nobility.

During the latter monarch's reign it became the fashion to arrange the plan of the mansion in the form of the letter H ; that is, in two parallel wings connected at a right angle. In the reign of Elizabeth this was modified into a plan resembling the letter E, otherwise a façade, with wings bent at right angles, with a central projection forming the main entrance.

In the domestic Tudor style the Arch was in vogue for window openings, etc., but much flattened in form.



No. 75. Tudor Window with leaded lights.

The windows were divided into a number of lights, by vertical mullions, with arch headings, occasionally cusped. If of tall proportions, they were further divided by horizontal bars or transoms, and were glazed with small panes of glass set in lead frames, arranged in some cases to open in iron casements.

The Reformation

An important factor in the development of this period was the Reformation, with the resultant liberty

of thought. Before this, architecture and the associated arts were entirely dominated by the Church, at the sacrifice of the individuality of the artist and craftsman, who after this emancipation were enabled to exploit their work untrammelled by clerical restriction.

In some respects this was not productive of the best results, as it removed the various co-ordinated branches of work from the restraint of architectural dominance, with some loss to the unities. It also opened the way to the professional designer as distinct from the craftsman (who hitherto had been responsible for his share of the work) resulting in occasional loss of character.

Renaissance

The Renaissance, which had its origin it Italy, was the next factor in the evolution of architecture and the arts. As early as 1422 there were indications of the coming change, though the medieval system of construction was still adhered to.

Impetus was given to this revival by the taking of Constantinople by the Turks in 1453 A.D., resulting in the dispersion of the Greek scholars, who found refuge in Italy.

Gothic, essentially a Northern style, scarcely affected Italy, where Byzantine tradition persisted until the Revival of Learning in the latter half of the fifteenth century brought a fresh impulse into all branches of Art and Literature.

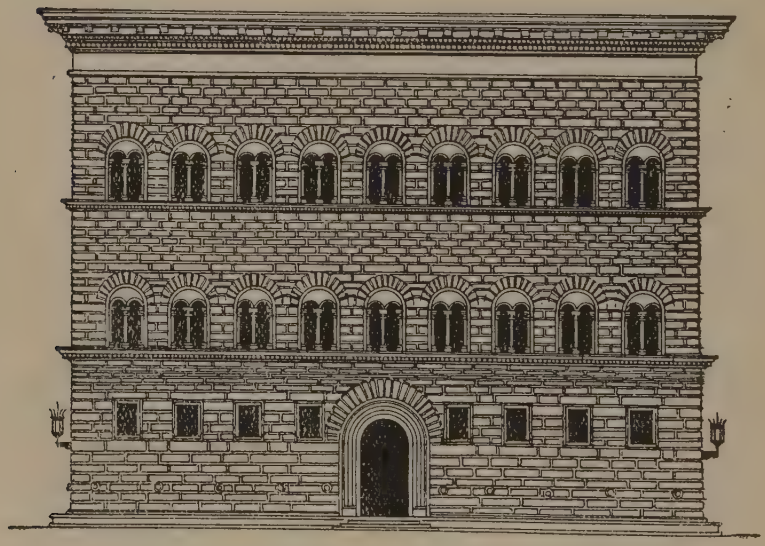
An awakened interest in classical remains was an integral part of the vitality with which the great change

known in its culmination as the Renaissance was imbued; and the commercial prosperity of the times was favourable to its encouragement and development.

Early Exponents

An active agent in this revival was Brunelleschi, a native of Florence, who in company with Donatello, visited Rome to study the remains of classical antiquity. His principal successor, Leo Battista Alberti, contributed largely to the new style. Ultimately the Roman Orders and their details were appropriated and adapted to local requirements.

The most prominent artists of the day turned their attention to the designing and making of wood-work, and the decoration of rooms.



No. 76. Strozzi Palace, Florence.

The earlier work is severely architectural in character, being closely based on the antique, with all the usual features of columns, pilasters, cornices and pediments.

The greatest achievement of the architects of the Renaissance was perhaps their adaptation of the antique Roman style to the modified needs of secular buildings, of which the Palazzo Pitti at Florence by Brunelleschi is an early and notable example. This creating a form of architecture which perhaps reached its noblest expression in the Palazzo Strozzi, begun in 1489 A.D. by Benedetto da Majano.

As previously suggested, climate and local material are essential agents in the formation of style, and from Tuscany stone of large size was easily obtainable.

The contentious conditions existing in many of the Italian cities, entailing necessity for defence, must also

No. 77. Pandolfini Palace, Florence.

be taken into account, and in connection with the foregoing were responsible for the massive and fortress-like construction of the principal dwellings of this period.

In the best examples of these, though columns and

pilasters were not employed in the façade, the stories are proportioned as if the orders were used. The crowning cornice, however, is proportioned to the whole, varying in height between one fourteenth to one fifteenth.

From Florence the movement spread to Rome and other cities, but Venetian Renaissance indicates undoubted evidence of Lombardic influence.

Until the end of the fifteenth century the period was one of experiment, but from 1500 to about 1560 the style may be said to have attained a phase distinct and local.

At first the various features, structural and decorative, were frank reproductions from the antique, which were studied and measured, and from which systems of proportion were deduced by various exponents, among whom the names of Vignola, Palladio and Serlio are conspicuous.

Rome

The Roman version of the Renaissance, as distinct from that of Florence, was less massive, Rome being comparatively free from insurrectionary troubles. Columns and pilasters were used to divide the façade into bays, or in the inner courts, which were frequently arcaded, and the principal entrance became a prominent feature.

The founder of the Roman school was Bramante, born in 1444 A.D., originally a painter, who was responsible for the original design of St. Peter's, at the instigation of Pope Julius II.

The partly executed work was found to be too weak

No. 78. St. Peter's, Rome.

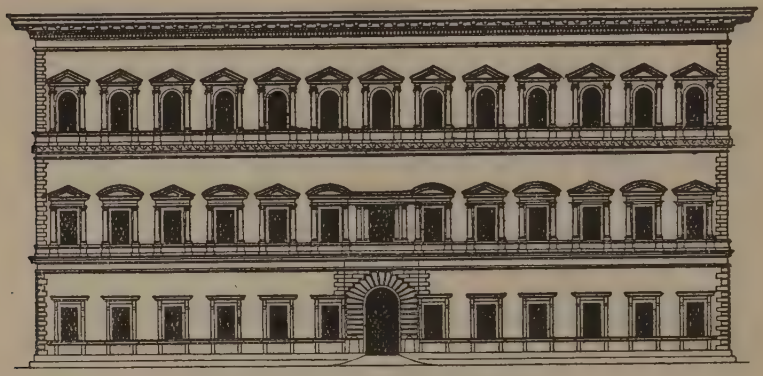
to bear the superstructure, and Bramante in the meanwhile dying, Raffaelle, Giocondo and Giuliano di San Gallo, and afterwards Baldazzare Peruzzi and Antonio San Gallo were engaged on the edifice.

Finally Michael Angelo was entrusted with the sole conduct, and St. Peter's in its present form must be credited to him, with the exception of the nave, which was added by Carlo Maderno.

Of the secular buildings, the Farnese Palace, the work of San Gallo, is typical of the Roman adaptation of the antique architecture to the altered conditions.

To the above list of architects of the Roman

Renaissance may be added the names of Sansovino, Vignola and Bernini, the last-named being the author of designs for the Louvre at Paris.



No. 79. Farnese Palace, Rome.

Venice

The Venetian States, since the twelfth century, had been growing in power, and the Republic's rise in importance was favourable to the arts, particularly to architecture.

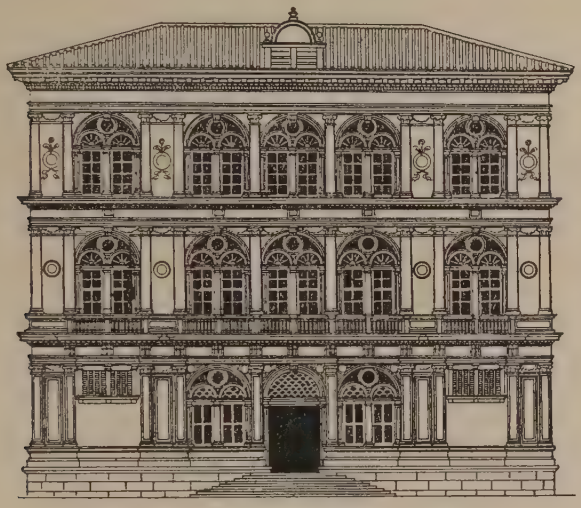
Local influence is evident in the comparatively restricted ground areas, entailing the maximum accommodation possible.

The Venetian school is distinguished by the profuse use of columns and arcading ; also for the employment of circular-headed windows, frequently subdivided by tracery of smaller arched and circular forms, and by general lightness of effect.

The founder of the Venetian school was San Micheli, born in 1484 A.D., who spent many years studying the ancient Roman monuments, and who was responsible for the Grimani Palace.

Jacopo Tatti, a Florentine, more usually known as

Sansovino, though mentioned in the Roman group of architects, was however more associated with Venice, his adopted city.



No. 80. Vendramini Palace, Venice.

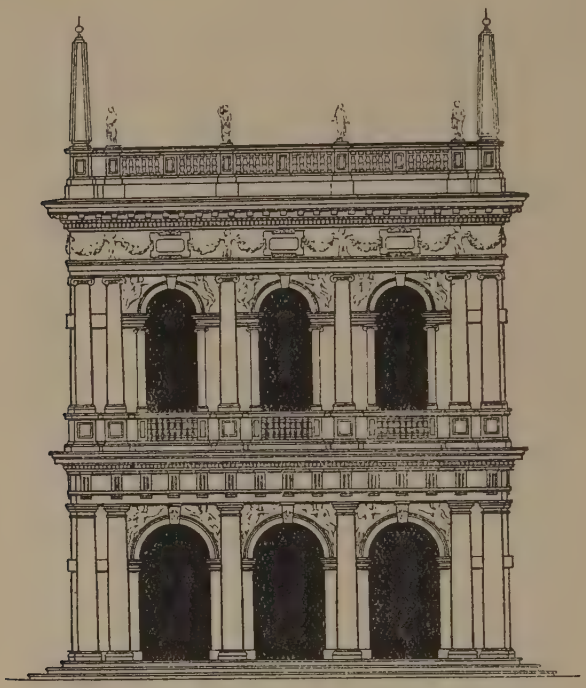
Prominent among his works is the Library of St. Mark, which consists of two orders, an upper of the Ionic, supported by an arcade in which the Doric is employed, the whole surmounted by a balustrade with statues on the piers.

Venetian Influence

In the Venetian school must be included the name of Andrea Palladio, who possibly had a greater influence on the architecture of the time than any of his contemporaries ; an influence that may be traced in the work of Inigo Jones, and in that of Sir Christopher Wren and his immediate school.

Vincenzo Scamozzi, who died in 1616 A.D., like

Palladio and others, was influenced by the antique, and was perhaps the last architect of the Venetian school to attain celebrity.

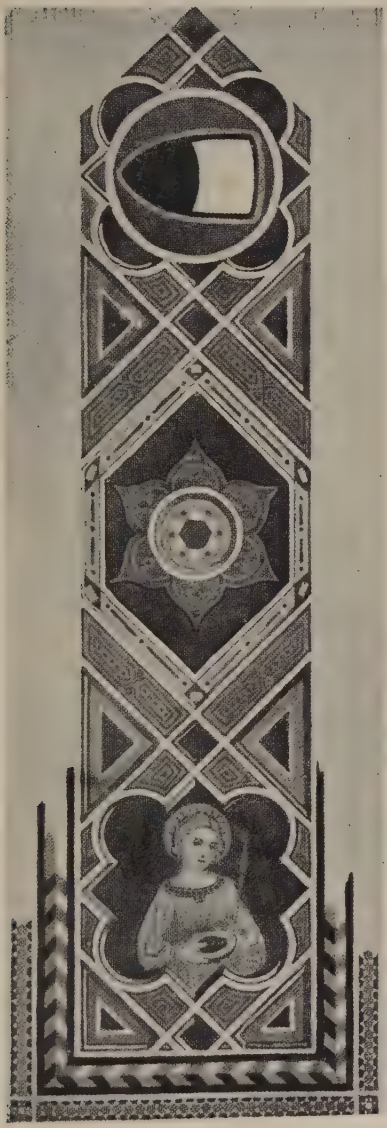


No. 81. Library of St. Mark by Sansovino, Venice.

Painted Decoration

A conspicuous feature of the Italian Renaissance was the development of painted decoration, which had in Italy succeeded the Byzantine mosaic.

As in this method of decoration, mouldings in relief were ineffective, and were replaced by decorative bands or borders, so in the succeeding painted work similar framings were adopted.



No. 82. Painted Decoration. Palazzo Publico, Sienna, from a drawing by C. E. Bernard, Goldsmiths' College School of Art.

Mosaics were in vogue in Italy to the twelfth century, when painted decoration came into favour, and notable in the exploitation of this latter phase was the school of Giotto in the early part of the fourteenth century.

Vaultings and spandrils were covered with painted subjects, strongly framed by ornamental borders, which served to strengthen the sense of construction in reinforcing the dividing ribs.

With the advent of the Renaissance, these divisional bands became more architectural in treatment, and large areas, such as ceilings, were subdivided, the subdivisions being based on a logical sense of construction.

The name of Pinturrichio is associated with the Renaissance, among his works being the decorations of the Appartamenti Borgia in the Vatican, the Choir in Santa Maria del Popolo, Rome, and in Santa Maria Maggiore at Spello ; contemporaneous was Perugino ; another celebrated name is that of Gian Antonio Bazzi of Sienna, generally known as Sodoma.

Græco-Roman Influence

Later exploiters of painted decoration, Raffaelle at the Vatican, Giulio Romano, Pierino del Vaga and Giovanni da Udine, were evidently influenced by the then recent discovery of late Græco-Roman decorations in the remains of the Baths of Titus.

The same influence is found also in minor details—in the decoration of rooms and in the various pieces of furniture.

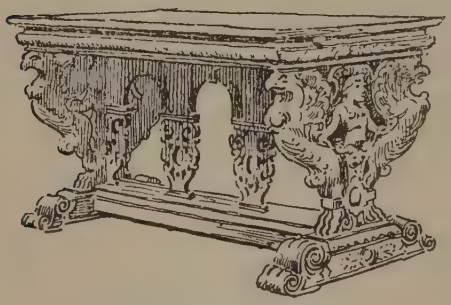
Walls were panelled, sometimes enriched with carving, with inlaid patterns in intarsia, or with inlay of different woods in imitation of marble mosaic.

Hangings of Genoese velvet or stamped and gilded leather were often used.

Chairs were at first simple in form, having straight backs and legs, with broad, elaborately carved rails at the head of the back and between the front legs.

Chests or cassone, called also marriage coffers, because it was customary to give them as wedding presents, generally took the form of the sarcophagus, supported on claw feet. In many instances they were decorated with gilt gesso, or were covered with exuberant carving.

With the development of inlay, which degenerated into picture making, some later examples show attempts at perspectives, in which arches, doors, balustrades and paved floors were depicted. Cabinets were invariably raised on open supports and furnished with doors enclosing compartments and sets of drawers, the fronts of which were frequently decorated.



No. 86. Venetian Table.

Tables were inlaid, carved and gilded. The prevailing form was a rectangular top, sometimes of marble, with wide, richly carved supports consisting of human and animal forms at either end ; these were connected by a central stretcher at the base, from which sprang a series of arched forms reaching to the underside of the top.

Walnut was commonly employed for constructive purposes, and ebony and many other woods were used

both for veneers and inlay, as also were such materials as ivory, tortoiseshell and mother-of-pearl.

It is not easy to form an idea of the furniture in ordinary use, as the examples which survive and which can generally be seen in museums are misleading, being typical rather of that belonging to the nobility and wealthy classes.

Probably owing to the rougher usage to which it was subjected, and possibly also to its being but little esteemed by its owners, and consequently no effort being made to preserve it, the domestic furniture of the middle classes seems to have disappeared.

No. 87. Carved Walnut Chair. Italian, 16th century.

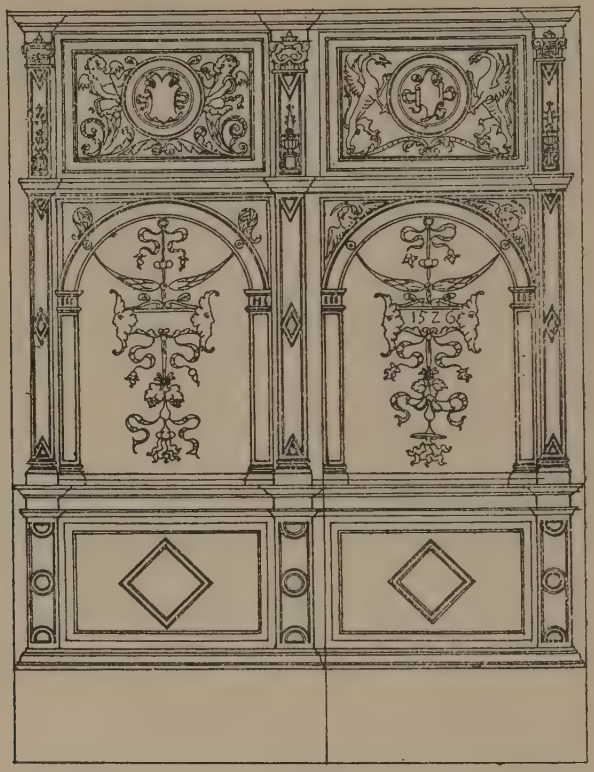
Early French Renaissance

France had been brought into contact with the new architecture through the Italian wars under Charles VIII, Louis XII, and Francis I.

The chief characteristic of the early French Renaissance is that the details of the new school were imposed on structures which were Gothic in general form.

Italian architects were employed by Francis I, and although in the many important buildings erected for

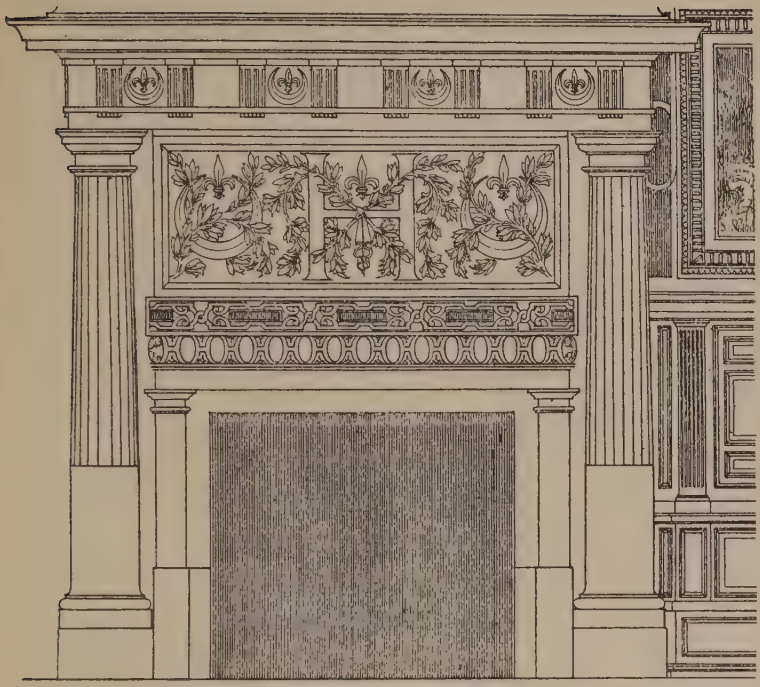
him he preferred native workmen, Italians were retained to furnish designs and lead the new style. Leon-



No. 88. Wood Panelling. Early French Renaissance.

ardo da Vinci and Andrea del Sarto were both employed in the decoration of Fontainebleau.

Fontainebleau, Chateau de Chambord, Chenonceaux sur Loire, Chateau de Madrid and the commencement of the Louvre were all due to Francis I; and the Italian influence was strengthened by the marriage of Henry II with Catharine di Medici.



No. 89. Stone Chimney-piece, Fontainbleau, Henry II Salon.

Native Exploitation

Under the influence of Vignola and Serlio, the Italian style became more popular, and finally extinguished the lingering Gothic tradition; and eventually the assimilated style became local, the first prominent native exploiter being Philibert Delorme, the architect of the Tuileries, for Queen Catharine of Medicis.

Strapwork was a pronounced feature of this period, carved panels being subdivided by framings of straight and curved forms interlaced with cornucopæ and scroll work. Scrolling straps with I shaped incisions were also used.

No. 90. Wood Panel. Early French Renaissance.

Masks are of frequent occurrence, and sometimes form scroll centres.

Medallions were often employed, and were occupied by profile heads, and surrounded by foliated wreaths.

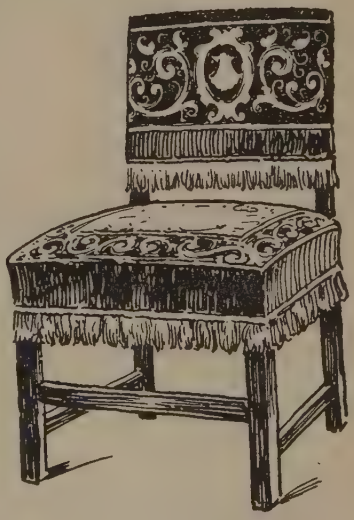
Pilasters were narrow, and had sunk and moulded panels, lozenge shaped in the centre.

In England great impetus was given to building, consequent on the suppression of the religious houses during the reign of Henry VIII, and mansions were erected in various parts of the country with some pretension to both external effect and domestic comfort, not merely by the nobility, but also by the wealthy merchant class.

English Renaissance

From the rise of the Italian Renaissance a century elapsed before the new style began to affect English work.

In Italy classic tradition had never died, and consequently Gothic gained no real hold there, the best examples of Italian Gothic being inferior to those of France and England. In the early days



No. 91. French Chair. Period Henry II

of the Revival of Learning, when interest in architecture was at its height, Italians set out to emulate the style of building and decoration which prevailed in ancient Rome. Gradually the same spirit spread to other parts of Europe. Students were attracted to the birth-place of the Revival, and workers and designers from Italy were eagerly welcomed by her neighbours.

Naturally enough each country interpreted the new style in a different way, and as it reached England chiefly through France and the Netherlands, the French and Flemish interpretations in turn influenced the development of the English style.

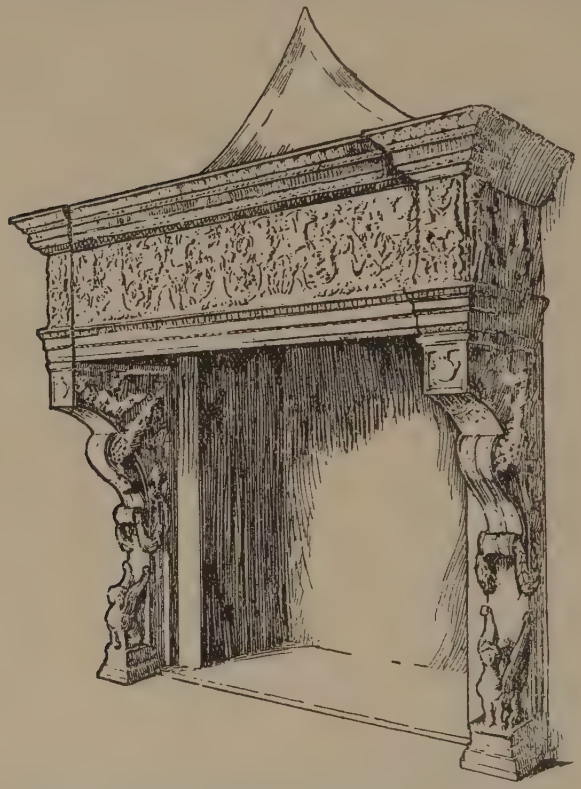
No. 92. Walnut Chair upholstered in Appliqué. Italian, about 1600.

Italians in England

Before either French or Flemish influence had been felt, however, there were Italian workers settled in England carrying out designs purely Italian in character. The earliest example is the tomb of Henry VII in Westminster Abbey, by Torrigiano. Many tombs and monuments were made entirely by Italians. Holbein, who was employed by Henry VIII, was distinctly a Renaissance painter and designer and encouraged the new movement.

As the style became more widely disseminated it lost

much of its original purity, and classical details were used in conjunction with Gothic forms and methods



No. 93. Stone Chimney-piece. Sala Borgia, Rome. 16th Century.

of construction, due, doubtless, to the apparent difficulty with which the native workers grasped the essentials of the new style; indeed, there is more intermixing of styles in England than in any other part of Europe with the exception of Flanders.

The purely Italian phase was followed by a rendering which was largely borrowed from French work,

and this in turn was supplanted by the influence of the Flemish interpretation. The delicately modelled foliage, dolphins, candelabra, vases and cherubs, so characteristic of Italian and French work, were replaced by such typically Flemish details as interlacing strapwork with curved and scrolled ends, frequently cartouche-like in form, festoons of fruit and foliage, and terminal figures used as pilasters.

Study of Classic Style

In the late Jacobean and succeeding phases the classic manner was more thoroughly understood, and a more scholarly handling was the result, until the culmination was reached in the work of Inigo Jones and Wren.

The Elizabethan phase indicates an imperfectly understood, and in many instances meaningless, employment and adaptation of Italian forms to the requirements of the times.

A notable example if this is the central feature of the Public Schools at Oxford, the work of Thomas Holt, a native of York, in which the orders appear ranged one above the other.

Thomas Thorpe

The most prominent name associated with the architecture of the period is Thomas Thorpe, who was concerned in many of the principal edifices erected during the reign of Elizabeth and of her successor, James I.

The general arrangement of woodwork consisted of architectural façades, and the orders and pediments were utilised wherever possible.

Doorways and chimney-pieces offered the principal opportunities for display in interior work.

Panelling was retained for the large halls and most of the rooms. The walls were frequently divided into bays by means of pilasters and surmounted by friezes and cornices more or less determined by traditional forms.

Flemish Influence

The style degenerated in the same reign into a coarser rendering, and was followed by a period of strong Flemish influence. There is, in fact, such a marked similarity between the later Elizabethan and Flemish furniture and wood-work that it is not easy to distinguish the nationality of examples of this period. In cases where figure sculpture is employed, however, it is not difficult to decide, as a considerably higher standard was attained by the Flemish school of figure carvers than is found in English work.

Tapered pilaster-like supports, surmounted by half figures or Ionic caps, were often employed in the framing of doors and chimney-pieces, and sometimes on furniture. Table supports and newels of stairs increased in size. The heavy acorn-shaped baluster is a feature. Inlay came into use for panelling as well as for furniture.

Synchronously with the changes in detail, there was a more classical tendency displayed in moulded features such as strings and cornices.

In the early seventeenth century the scale of the details of Flemish work increased. Diamond-shaped panels were superimposed on square ones; turned

work was split and the two halves applied; drop ornaments were used below tables and from the centres of panels under arches—all these being additions to the general structure.

Jacobean

English work developed in much the same way as Flemish, probably owing to the commerce in woodwork between England and Flanders at this time.

In the earlier work, where the orders were employed, there was some regard to proportion and detail, probably direct translation of Italian designs, but in the later Jacobean work there was considerable falling-off, presumably due to native exploitation and experiment.

No. 94. Jacobean Wood Carving. Palace of Bromley-by-Bow.

Architectural feeling was prominent in the treatment of interiors, which were invariably panelled as in the earlier period. The characteristic " linen fold "

variety of the late Tudor giving place to plain panelling, framed by stiles and rails closely spaced.

Walls were occasionally divided into bays by means of pilasters, often supported on pedestals.

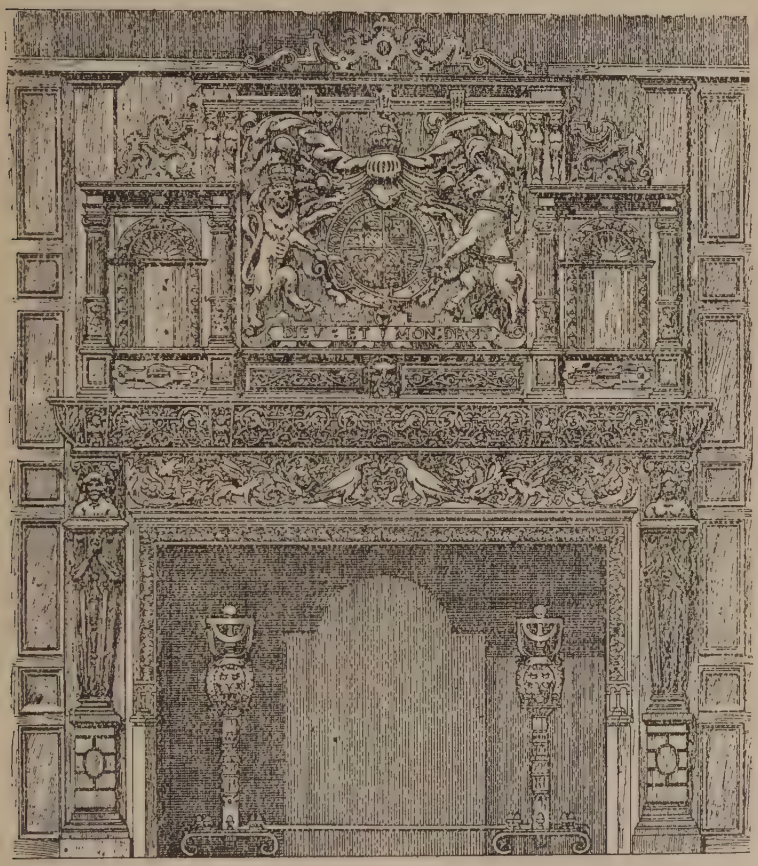
The panels in the later development were invariably plain, but a decorated frieze, carved in relief, was carried round immediately under the cornice. Coats of arms at intervals sometimes supplied the decoration. The carved frieze gave place to a simple form of patterning, which was produced by sinking the ground to practically one level and leaving the ornament which had little or no modelling, flush with the face of the panel. This led to fretting out the pattern and applying it to the surface. The idea of planting ornament evidently spread, and may be seen in such obviously applied details as studs and half-balusters.

No. 95. Jacobean Wood Carving. Palace of Bromley-by-Bow.

A typical room of the period would be treated with plain panelling, perhaps divided into bays by pilasters, and all elaboration was confined to the doorways and chimney-piece.

The chimney-piece might be in wood, stone or marble, and while there were many varieties of treatment, the designs readily fall under one general type. Columns or pilasters flanked the opening,

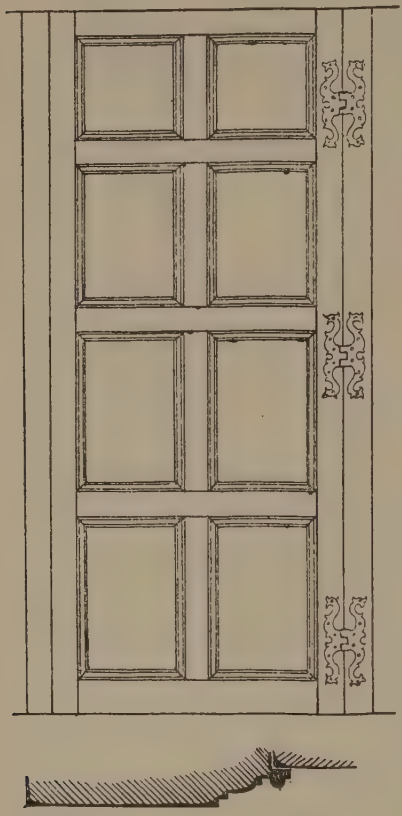
carrying an entablature consisting of architrave frieze and cornice, the latter forming a shelf. Above this there was a



No. 96. Jacobean Chimney-piece. Palace of Bromley-by-Bow.

similar arrangement, but on a smaller scale and with finer proportions. The space between the columns above the shelf was usually filled with carving, which sometimes took the form of armorial bearings. In many

examples the upper part is divided into two panels, which were generally filled with carved ornament such as strapwork or shields charged with heraldic devices.



No. 97. Jacobean Door, shewing absense of architrave.

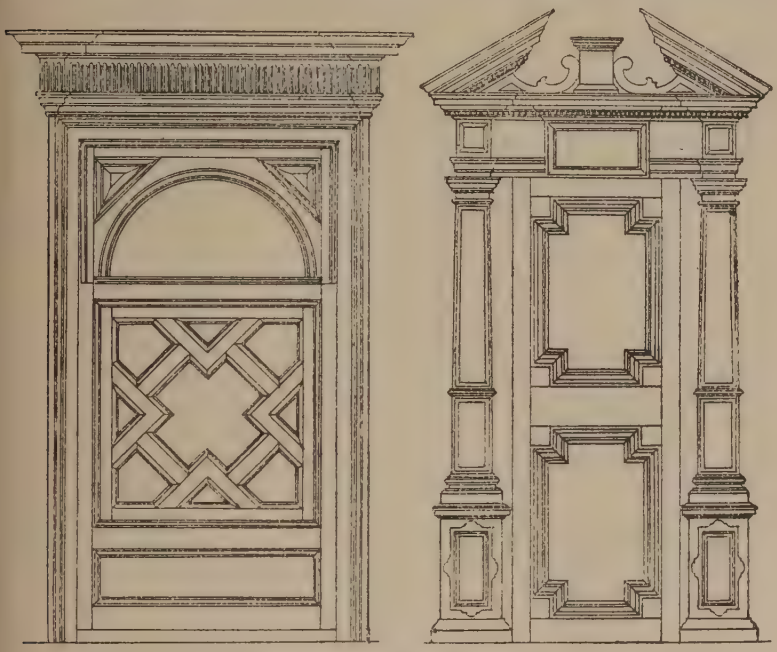
Where the chimney-piece was of wood, the fireplace opening was surrounded by a stone lining, which had moulded splays on the upright jambs. In earlier examples the jambs were connected by a flattened arch with carved spandrils. In later work a horizontal panel was employed or a frieze of carved detail.

The opening itself was wide, and was lined with brick or stone. The interior was occupied by a fire-back of cast-iron and a movable grate or basket supported on dogs.

Doors were at first merely a part of the panelling without hanging frames, but later they were treated as important features of the rooms. They were often framed with columns and pilasters, surmounted by entablatures, with or without pediments. Obelisks were sometimes placed over the pilasters. The frieze

was fluted or carved. In many cases the tympanum of the pediment or even one of the door panels bore the owner's coat of arms.

In the earlier phases the mouldings framing the panels were simple in form, and worked on the stiles



No. 98. Jacobean Doors.

and rails. But later they were applied, being wider in display and more elaborate in section. These applied mouldings, evidently the result of mechanical appliances, later led to extreme license in broken angles and panellings of complicated form.

Ceilings, and occasionally the frieze, were in plaster, decorated with intersecting ribs, or bands dividing the surface into compartments geometric in shape, and

further enriched with stamped or modelled ornament.

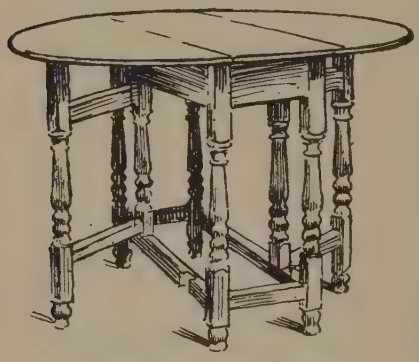
Windows were relatively small as to individual openings, large lighting areas being obtained by grouping a number of these side by side, and also in tiers, the dividing bars or mullions being either in wood or stone.

Glazing took the form of small pieces of glass united by lead frames, commonly arranged in trellis form, resulting in diamond-shaped pieces. Occasionally painted or coloured glass was used, generally in heraldic devices in the upper portions of the windows.

The windows themselves were frequently deeply embayed.

Development in Dwellings

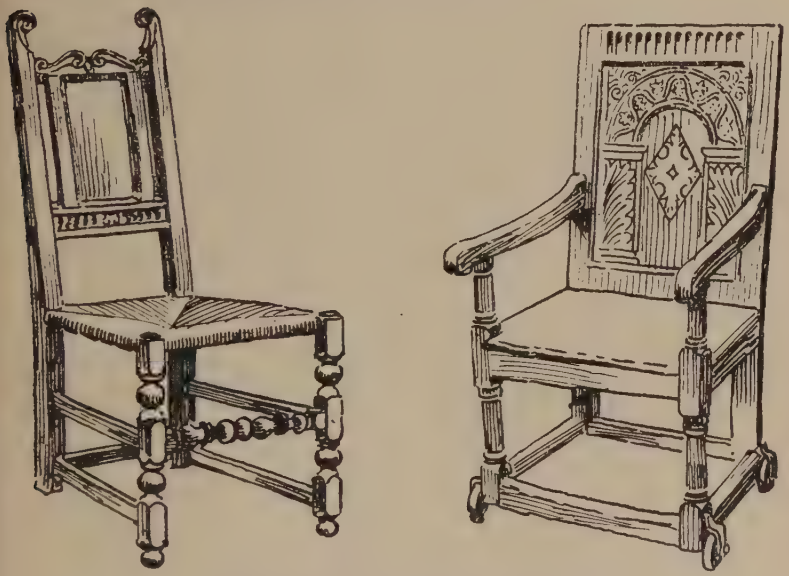
The growing appreciation of domestic comfort, evident in the general arrangement of the buildings of this period, is also apparent in the furniture, which from this time approximates somewhat to the modern forms, though still crude, and leaving much to be desired in the way of personal comfort.



No. 99. Oak Table, English. 17th century.

Tables, which had hitherto been mere portable boards laid on trestles, or, if fixed, were on heavy legs with rails below, developed into more useful forms. These were the draw-inge table which could be extended by drawing out two flaps worked on runners from

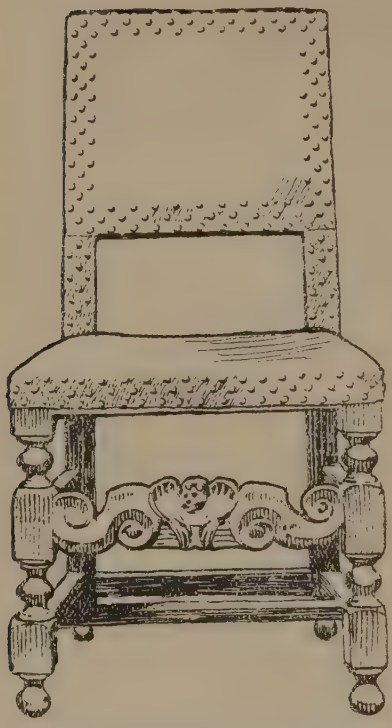
beneath the normal top, and the gate-leg table, which in principle resembled the modern folding type. Large tables were formed by putting a number of gate-leg tables together, and when not so in use they could be placed in different parts of the room.



No. 100. English Chairs, early 17th century.

Legs and the under rails of chairs and tables were turned in the lathe, and the carved details were invariably simple and direct in execution, similar in character to much of the work in the early French Renaissance, in contrast to the Italian carving, which was in high relief and plastic in character.

The majority of examples in our national collection of this period are of Court furniture, and cannot be taken as typical of what was in common use. The over-ornamented Italian work compares unfavourably with



No. 101. English Chair, middle of 17th century, influenced by Italian design.

where the art of weaving had been preserved at Lucca, and other places, tapestry was also frequently employed as wall hangings, also as coverings for upholstered work.

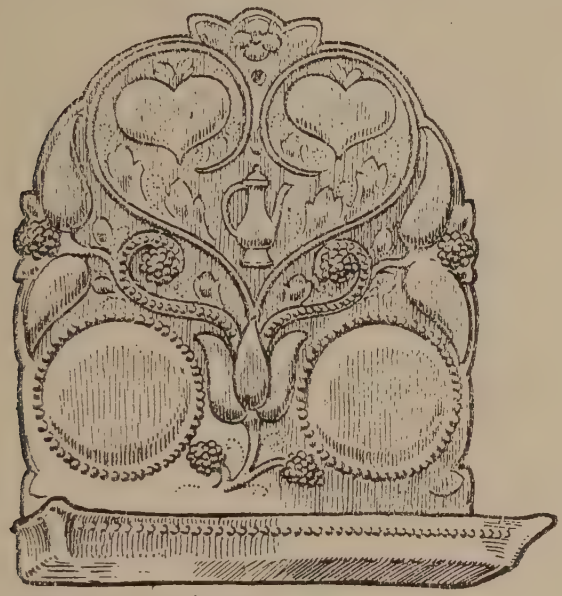
Compared with the earlier period, this was a time of luxury and display, favourable to the arts generally. the English Jacobean furniture, in which utility is obvious and the decoration subordinate and to the purpose.

Oak was chiefly employed in England, but in Italy, and later in France, walnut was much used.

Panelling was prevalent for interiors in the Italian and French Renaissance. In Italy,

No. 102. Oak Chair, English, 17th century.

Painting, freed from the restrictions of the church, broke away from the Byzantine traditions, and revelling in realism, lost to some extent its decorative character.



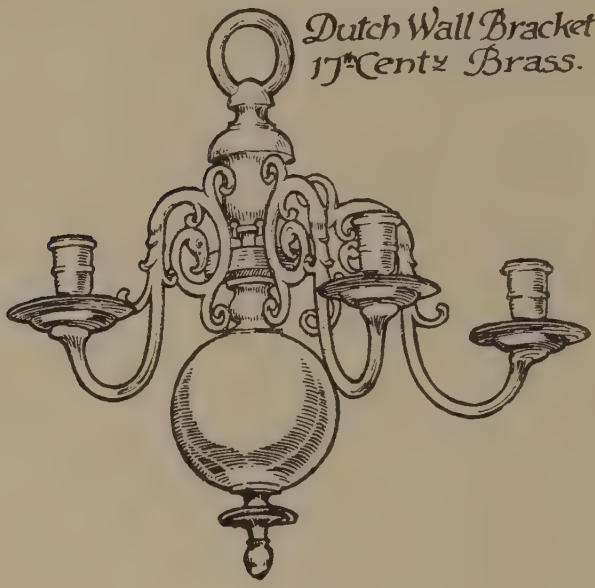
No. 103.

Evolution of Professional Designer

Under patronage, the individual artist and craftsman was allowed to develop on his own lines, and no longer worked under the dominance of the architect. Demand, owing to growing appreciation of artistic production, eventuated in the evolution of the professional designer.

Inigo Jones

Although the Renaissance had come to stay, the manner of its interpretation in England by the native workers was very far removed from the Italian school which had supplied the first impulse, until the advent

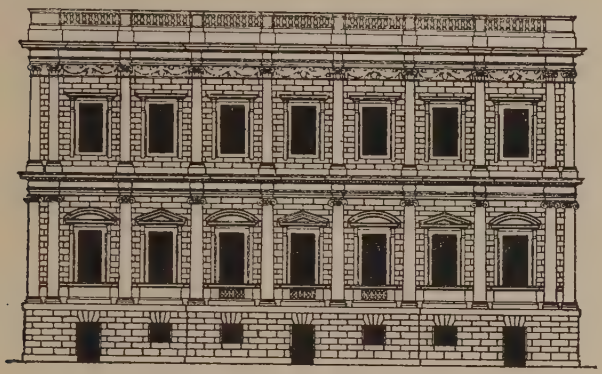


No. 104.

of Inigo Jones in the reign of James I. This artist, who had visited Italy and studied principally the architecture of Palladio and his school, was appointed King's Surveyor of Works. Under his influence proportions and details were used, which conformed more nearly to classic types.

Born about 1572 A.D., he studied in Italy, where he became acquainted with the work of Palladio, and was a follower of the Venetian school.

Dying in 1652, he left a tradition which would have had a more immediate effect but for the internecine troubles of the later period of his life.



No. 105. Banqueting House, Whitehall. Inigo Jones.

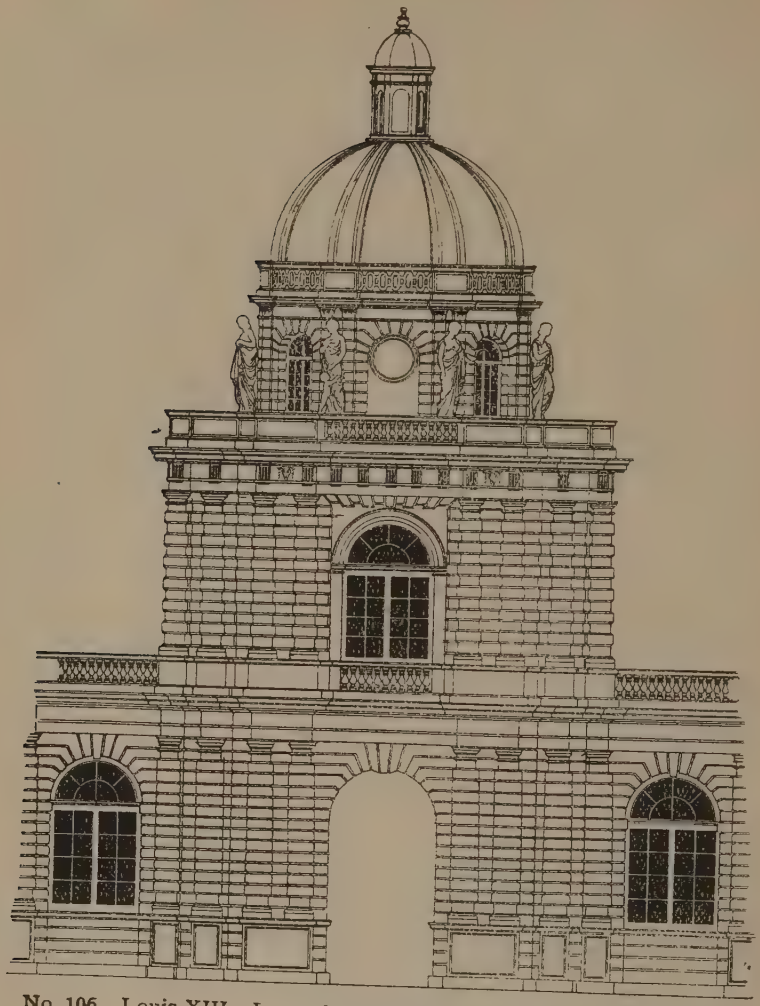
A typical example of his work in London is the Banqueting House in Whitehall, the only part built of the projected palace for James I, now used as a museum by the United Service Institution. Also the Church of St. Paul, Covent Garden.

Louis XIII

By the time of Louis XIII the principles of the Renaissance had become thoroughly assimilated in France, and a native school of architecture had arisen of marked distinction. France from then onward took the initiative, though strongly influenced by the Venetian school.

The orders were used consistently as to proportion and detail, but in the decoration considerable development in character is manifest.

The general construction and details developed on



No. 106. Louis XIII. Luxembourg Pavilion Entrance, by Salamon de Brose, 1615-24.

more architectural lines, and shew a better appreciation of the Italian originals. Pilasters were used to divide the wall surfaces, these and the entablatures

closely following in detail the classic types. Panels were much wider than in the preceding style, generally occupying the whole space between the pilasters. The usual arrangement for these panels was to have them in two tiers—the shallow ones confined to the lower portions of walls and those of deeper proportions above. Fireplaces and doors were surrounded by boldly moulded architraves, and surmounted by panels occupied by carved details of scroll-work and foliage.

No. 107. Ste. Marie, Nevers. Louis XIII. Example of Barocco (Flemish influence).

No. 108. Upholstered Chair. Louis XIII.

Ceilings were modelled in stucco and sub-divided into compartments, which were richly moulded, and in some cases decorated with paintings.

During the reign of Louis XIII, chairs were made more comfortable by being upholstered in velvet, tapestry or needlework, instead of being smothered with carving. The frames were covered by velvet or other material, leaving only

the legs and arms visible, and these were but slightly carved.

Louis XIV

In France the Renaissance reached its highest degree of splendour in the reign of Louis XIV.

No. 109. Louis XIV. Louvre, Paris, by Perrault.

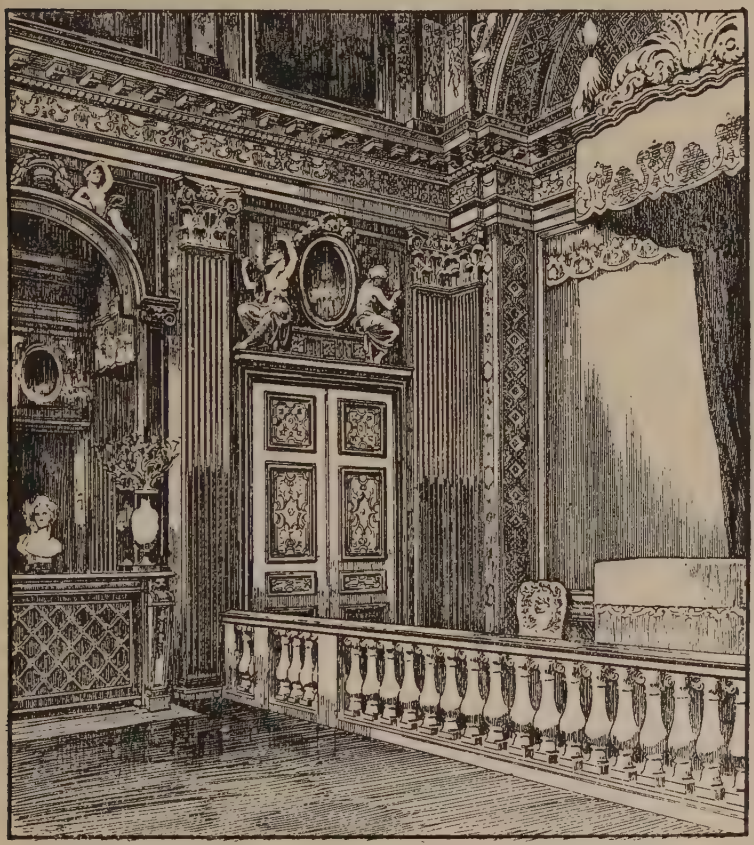
The palace of Versailles, designed by Jules Hardouin Mansart, was completed, and French designers were many and famous. Amongst the most prominent were Lebrun, who was responsible for much of the interior work at Versailles, Jean and Claude Berain, Lepautre, Daniel Marot and André Charles Boule, the inventor of the particular class of inlay which bears his name.

The style of Louis XIV is characteristic of its time. Love of display was manifested in every direction, but nowhere did it give rise to greater magnificence than in furniture and decoration.

The employment of architectural features, with a close approximation to accepted proportions, had been the keynote of the preceding style, but the work of this

period broke away from all tradition. As a departure it was quite original, and constituted a phase in the development of the Renaissance that was purely and typically French, and this particularly in its massiveness and grandeur.

Panelling became more varied in proportion, and heavily framed with mouldings of the Bolection type.



No. 110. The King's Bedchamber, Versailles. Louis XIV.

Glass was also used in panels as at Versailles in the Hall of Mirrors, where the windows on one side of the gallery are repeated in form by mirrors in reciprocal positions.

Important rooms were panelled and divided by pilasters, surmounted by entablatures. The Corinthian order was the one most frequently used.

Panel mouldings were heavily and richly carved. Curved sections and facias were fluted, or carved with guilloche or leaf detail. Figures and *amorini*, heavy festoons, wreaths, cartouches and shields were among the decorative motifs. Strapwork, a survival of the preceding styles, was moulded and clothed with foliage of the acanthus variety.

No. 111. Upholstered Chair. Louis XIV.

Ceilings were modelled in stucco and were divided into bold geometrical compartments by strongly moulded ribs. The compartments were sometimes occupied by paintings. In some cases the cornice was not taken up to the height of the ceiling, but the ceiling line was continued in form of a curve to meet the top of the cornice, forming what is known as a cove.

Chairs were massive, the frames were carved and gilt, and the seats and backs upholstered in tapestry. In the latter part of the reign of Louis XIV metal was used in the construction of furniture in the form of

mounts—as framing and protecting pieces to angles, and was gilt by the mercury process. The introduction of veneer probably led to this use of metal.

" Boule " Work

A method of decorating furniture with inlays of brass or tin and tortoiseshell originated by André Charles Boule, came into vogue. The sheets of metal and shell were placed together and cut simultaneously, with the result that the patterns produced were interchangeable—thus the metal pattern could be fitted with a tortoiseshell background and vice versa. There was a tendency for this style of work to become more ornate and showy, and later, instead of the transparent shell being used in its natural colour, either vermilion or gold leaf was placed underneath.

Mirrors

Mirrors, in the sixteenth century, had been imported from Italy, and those of considerable size were first made in Venice.

Later glass manufactories were established in England—near Battersea—and in France, where larger mirrors and plates of glass were produced than hitherto.

Rooms lined with mirrors became popular, in some cases even the ceiling being made of glass.

Console tables, which were frequently gilt, were often placed under the large wall mirrors.

Hanging bands of material were employed to drape the heads of windows and the tops of bedsteads. Beds were important pieces of furniture, and had elaborately

carved head and foot boards. The overhanging Tester was also ornamented, and besides the valances already mentioned, was surmounted by groups of plumes.

No. 112. Pantheon, Paris. Soufflet. Louis XV.

Louis XV

Little advance was made in architecture during the reign of Louis XV, to which period belongs the Pantheon at Paris, originally the Church of St. Geneviéve, the work of Soufflet, born in 1713.

Régence

The style passed through two stages. The earlier, known as the Régence—the principal exponents of which were Charles Cressent, Gilles Marie Oppenord, and Nicholas Pineau—is distinguished by a certain reserve and moderation which were entirely abandoned in the later Rococo period.

No. 113. Detail of Wood-carving, Regency Period.

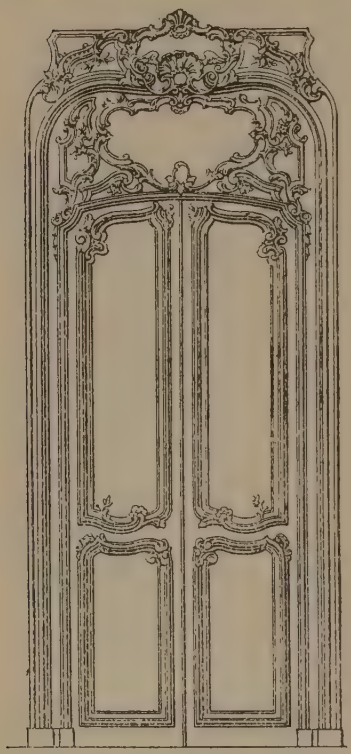
Rococo

The term "Rococo" is derived from a French word meaning rock-work, and is applied to the style in which rock and shell forms are used as details.

Ornament became extravagant and meaningless, and was wrongly used to serve the purpose of construction, the actual constructive elements being at times completely ignored. It cannot be denied, however, that powerful draughtsmanship and inventiveness were displayed, but without the consideration of practical execution, which is essential to all good design.

Evidently the artist or designer dominated the craftsman, who, however, grappled with difficulties in an admirable manner, often achieving results which would appear from the constructional point of view almost impossible of attainment.

The work of the latter part of the period expresses the enervated and frivolous spirit of the time.



No. 114. Carved Wood Door. Louis XV.

Walls were panelled and often divided by pilasters, which, however, lost all structural significance.

Cornices and friezes were dispensed with, the frieze being replaced by a cove curving into the ceiling.

Mouldings were broken at angles and intersections into curves, scrolls and foliage.

Carved details of the curiously twisted leafage peculiar to the style were employed wherever possible.

Painted panels were fashionable, and were used particularly over doorheads. They were surrounded or framed by curved and enriched mouldings.

Interiors of this later period were invariably painted white, and partly gilt, the wall panels decorated with tapestry or paintings with which are associated the names of Bouchier, Watteau, and Fragonard.

Ceilings were also painted, wall mirrors were employed and furniture (at this period at times extremely costly) was veneered and decorated with metal mounts in gilt ormolu.

Chair and table legs were of the cabriole type.

Bureaux fronts were swelled into curves both horizontally and vertically.

Veneer and marqueterie were much used.

Chased and gilt brass

No. 115.

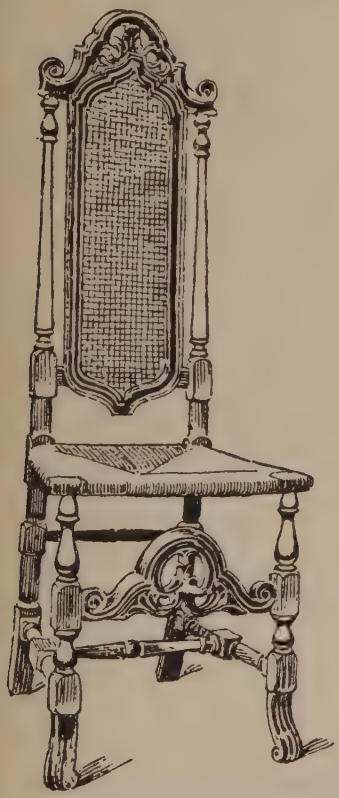
was employed to protect angles, as feet, handles, escutcheons and other ornamental details.

Lacquer "Vernis Martin"

Furniture was also decorated in imitation of Chinese lacquer. The principal worker in it was Robert Martin, who introduced a varnish of fine transparent quality.

Later English Renaissances

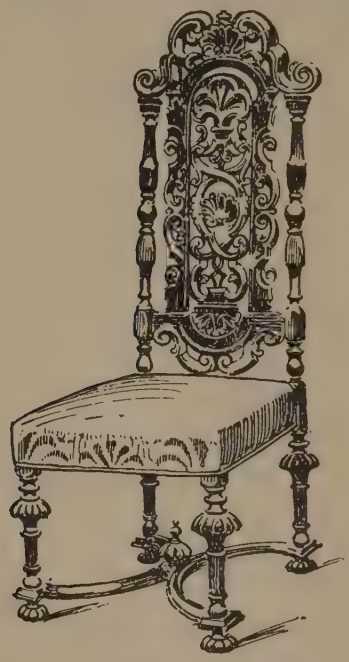
Artistic progress was hindered in England by the



No. 116. Chair with cane back
English, later half 17th century.

disturbed conditions at the time of the Civil War, and in consequence little change in style took place in this and the Commonwealth period.

With the Restoration came the influence of the French Court, and foreign furniture was imported, thus giving fresh models for the English workers.



No. 117. English Chair, period of Charles II.

One result of the Great Fire in 1666 was that a great impetus was given to architecture and to the crafts associated with it, and the influence of Wren and Grinling Gibbons produced a school of most efficient carvers and craftsmen.

Sir Christopher Wren

Wren was a worthy successor to Inigo Jones, and the general destruction wrought by the fire in the city gave him a fine field for his activity. He was employed not only to rebuild the churches, eighty-nine of which had been burnt, but also many of the city halls ; and was commissioned by William and Mary to build the state-rooms at Hampton Court Palace.

The style of Wren, which, like that of Inigo Jones, was based rather upon the Venetian school, was perpetuated and found individual exponents in the works

No. 118. St. Paul's Cathedral. Wren.

of his pupils and immediate successors. Among whom may be mentioned James Gibbs (1720 to 1754), architect of St. Martin's in the Fields (1726) and St. Mary le Strand, and Nicholas Hawksmoor, who was responsible for the churches of St. George's, Bloomsbury, and St. Mary, Woolnoth, the latter commenced in 1716 was finished in 1718.

Notable among Wren's churches is that of St. Stephen's, Walbrook, in the City of London; of his secular work an example may be cited in the library of Trinity College, Cambridge.

No. 119. Spire of St. Mary le Strand.

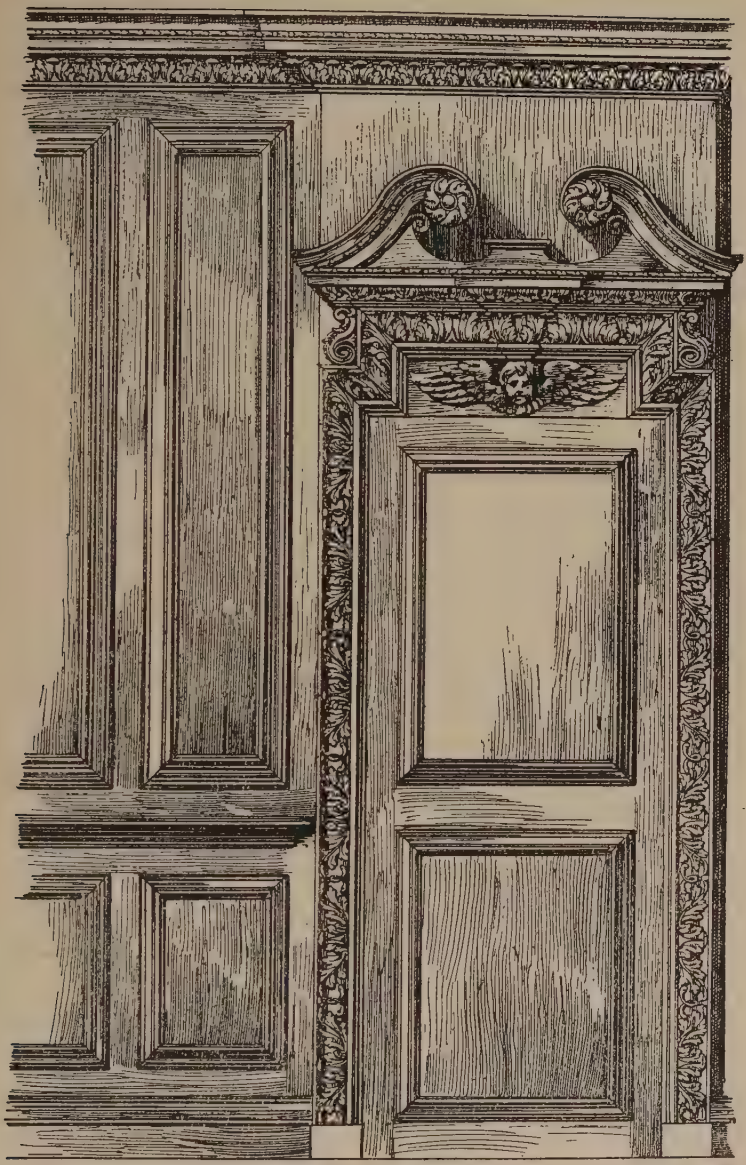
Classic Spires

A characteristic of the period in the churches of Wren and his school is the spire, which, though tapering like the Gothic variety, is invested with features quite Renaissance in form, arranged in successive tiers.

The architecture of the period is in excellent proportion, and all the details of mouldings, capitals, etc., were executed in a masterly manner.

Panelling was still employed, mostly in oak, and was now carried up to the ceiling. The panels were very wide, frequently bevelled at the edges—the stiles and rails forming the framings being much wider than hitherto. The framing mouldings were sometimes carved.

Doorways and chimneypieces were surrounded by well-designed architraves, with carved mouldings, and were surmounted by pediments, above which it was not unusual to have carved festoons and pendants of fruit and foliage.



No. 120. English Interior Wood-work. Late 17th and early 18th century.

Pilasters were decorated with cherubs' heads used as caps, and pendant drops of the usual type.

Carving was profusely used, the details consisted mainly of interlacing scrollwork of acanthus-like foliage, heavy fruit and flower festoons and drops, trophies and cherubs' heads. The relief was high, the work occasionally being detached, and the manner of execution was sharp and crisp, implying no hesitation on the part of the carver.

The high relief necessitated building up thicknesses of wood, and formed a great contrast to the earlier work in which the ground was slightly set back, leaving the original panel face as the highest part of the pattern.

The woods commonly used were oak for wainscotting and cedar for doors. Where it was intended that the woodwork should be painted or gilt it was made in deal. Some of the carving was in oak, but the favorite material was limewood, and pear ; cedar or lime was used when small fine detail was required. Elm was employed for various articles such as dressers : ash, beech, birch, poplar, sycamore, English and Italian walnut were also used.

Dutch and French Influences

With William III and his Dutch court the influence of the Netherlands became once more apparent. It was coloured by the French style of the Louis XIV period, probably through an immigration of French workmen after the Edict of Nantes in 1685. This influence can be traced in some of the furniture at Hampton Court, particularly in the carved and gilt tables of French design and English workmanship.

A

B

C

D

No. 121. A. Walnut Chair, period of Queen Anne. B. Dutch Chair, 17th century. C. Inlaid Chair, period of Queen Anne. D. Carved Chair, period of Queen Anne.

The chairs and settees of the period have shaped backs, generally with delicately carved central vertical panels of vase-like form ; and cabriole legs with a carved shell ornament on the knee.

Bureaux and corner cupboards were introduced. They were decorated with marqueterie or with inlay of boxwood or holly on a walnut ground.

Queen Anne Period

Flemish or Dutch influence prevailed during the period known as Queen Anne.

The typical Queen Anne chair in common with all the furniture of the period was made of walnut. The seat was wide, the front legs cabriole shaped, ending, as a rule, in club or claw-and-ball feet. The back was high and curved at the top, and this was connected centrally with the seat by a long vase or fiddle-shaped splat. Carving was not much used, but the splat was sometimes ornamented with floral and other designs in marqueterie after the Dutch fashion.

During this period an appreciation for Oriental china and lacquer work had an important effect on furniture and decoration.

The later fashion of inlay and marquetry work of Sheraton was perhaps as much the outcome of the Dutch practice of this form of decoration, as it was due to the discovery of the possibilities of mahogany as a suitable wood for furniture.

Early Georgian

The eighteenth century in England was the age of the connoisseur and dilettante, and the struggling

professional, literary or artistic, had little opportunity except by the favour of a patron. As for instance, Lord Burlington, who is reported to have practised architecture in conjunction with his *protégé* Kent.

William Kent, born in 1685, died 1748, a painter as well as an architect, was responsible for many designs, among which may be mentioned the Horse Guards in Whitehall, and Holkham in Norfolk for the Earl of Leicester.

Georgian work shows more evidence of French influence, but is invariably stiff and heavy in feeling.

In panelling rooms a surbase or dado was employed. The bolection moulding was universally used round panels.

Doorways and chimneypieces were made up of architraves, surmounted by pediments, and were formal in design and detail. The Greek key was often most unsatisfactorily used in their decoration.

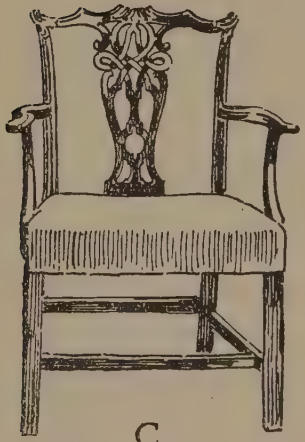
Chippendale

Among others, Chippendale's name is associated with the furniture of this period, and his book of designs, published about the middle of the eighteenth century, contained, besides furniture, suggestions for the complete decoration of rooms. Chippendale was undoubtedly influenced by the Louis XV style, and at one period he attempted to exploit Chinese forms and details.

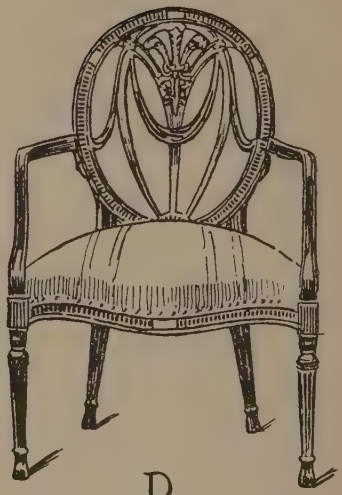
The chairs designed by him were based on the earlier Queen Anne type, but the vase-shaped back was replaced by pierced and carved interlacing bands and ribbons. For a time the cabriole leg was retained, but

A

B



C



D

No. 122.

A. Transitional Chair, 18th century.
B. Mahogany " " " Sheraton.
C. " " " " Chippendale.
D. Walnut " " " Hepplewhite.

later examples have straight square legs. The chairs were fitted with loose upholstered seats covered with morocco leather.

Furniture was generally in mahogany, which had been introduced a little earlier from the West Indies, and had become popular on account of the colour and figure developed by polishing. Mahogany lends itself to fine mouldings and detail, and this was evidently appreciated, as relief decoration on furniture in this wood received a more restrained treatment, while plain surfaces were made more extensive.

Mayhew

Contemporary workers were Mainwaring and Mayhew. Mayhew was responsible for a form of fret-work decoration which is often ascribed to Chippendale.

Adam Style

Prominent among his contemporaries, more perhaps for his influence on interior decoration, was Robert Adam, who died at the age of ninety-four in 1792.

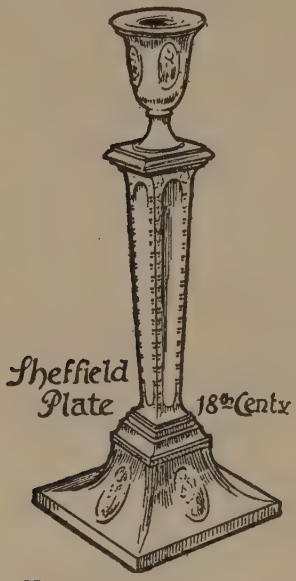
A student of the later antique Roman work, and inspired by the remains of Diocletian's Palace at Spalatro, he evolved a style which bears his name, that was personal and distinctive. A style that had many followers, and which largely influenced the work of Sheraton.

Simple as to structural form, and delicate in detail, it carried on the tradition of the later Graeco-Roman work on which it was founded, avoiding absolute reproduction.

No. 123. Interior Decoration. "Adam."

No. 124. Interior Decoration. "Adam."

The Adam influence is evident also in the pottery of this period, and in the details of Sheffield plate.



No. 125. Adam influence.

Examples of Robert Adam's architectural design may be seen in London at the Adelphi, which was built as a speculation, in the Admiralty screen in Whitehall, and houses in Portland Place, W.

Hepplewhite

Hepplewhite also was designing and manufacturing about this time, and is noted principally for his japanned or painted furniture. In this process the wood was first coated with a preparation after the manner of Chinese or Japanese lacquer, and then decorated with fruit and flowers in gold on a background. Subsequently, furniture of this character, instead of being japanned, was merely painted white. Hepplewhite's chair-backs differ in form from Chippendale's, being shield or oval shaped.

Satinwood came into use, and much of the work ascribed to Sheraton was made of it.

Painted decoration of a delicate character, the details including ribbons, borders and medallions, was applied to table-tops, harpsichord cases, chair-backs and other objects. The names of Angelica Kauffmann and Cipriani are associated with this form of decoration.

Hepplewhite and Sheraton were apparently influenced

by the work of the brothers Adam, which was a distinct departure from the earlier style. The cabriole leg was rarely used, its place being taken by gracefully tapered forms.

Sheraton

Although some of Sheraton's furniture had painted detail, he more often used marqueterie and inlay of fine design.

Panels were treated in marqueterie, with ovals or other simple shapes surrounded by narrow bands or lines of contrasting colour.

Sheraton sideboards were usually without backs, and were sometimes furnished with brass rails on top.

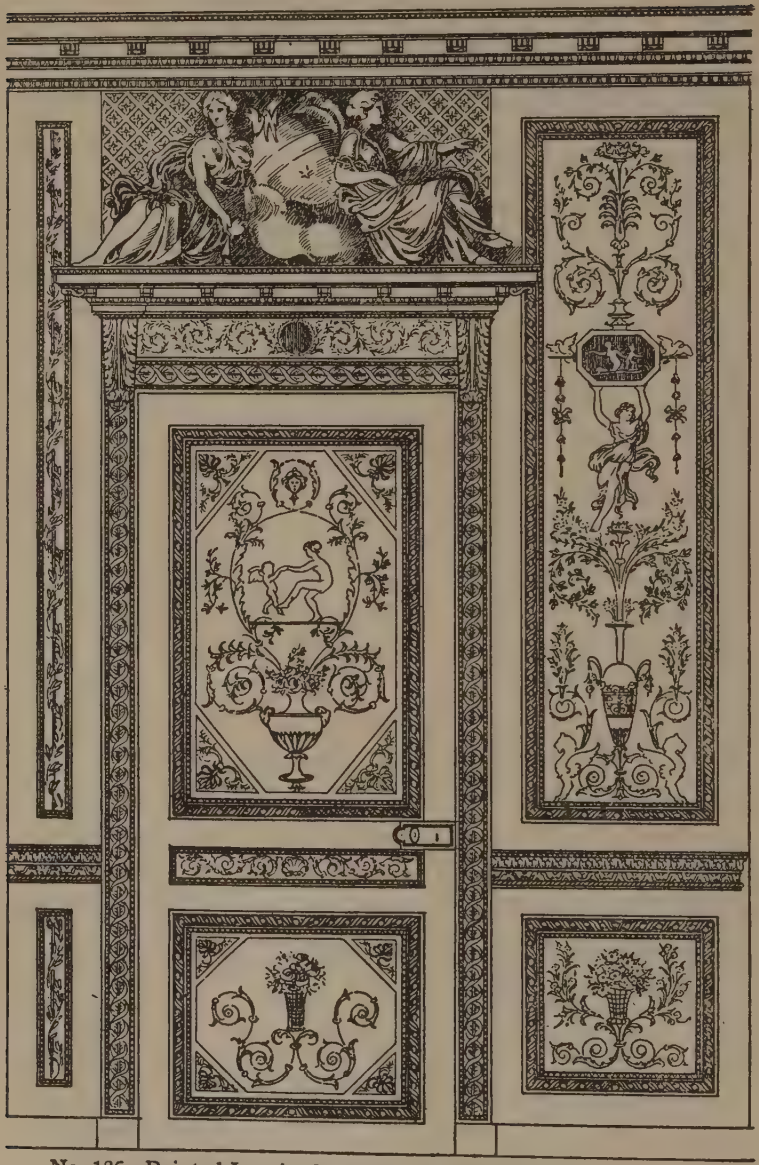
Bookcases had glass doors with well designed and finely worked sash bars.

The general tendency was towards elegance and refinement, and led to simplicity of treatment rather than over enrichment.

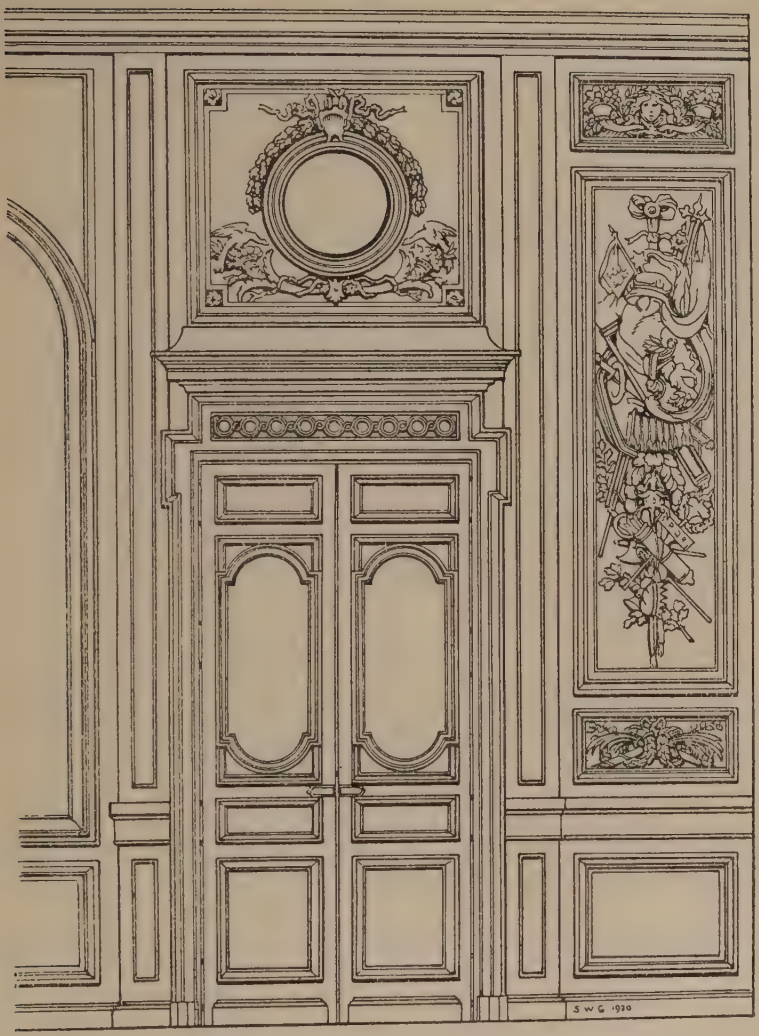
Indeed this may be taken as the culminating period for the finest production of furniture, not only with regard to design and exquisite workmanship, but in carefully studied utility. This consideration may be seen in the dressing-tables and secretaires, which were full of ingenious devices, and secret drawers and contrivances for hiding papers and valuables were quite a feature of the work.

Louis XVI

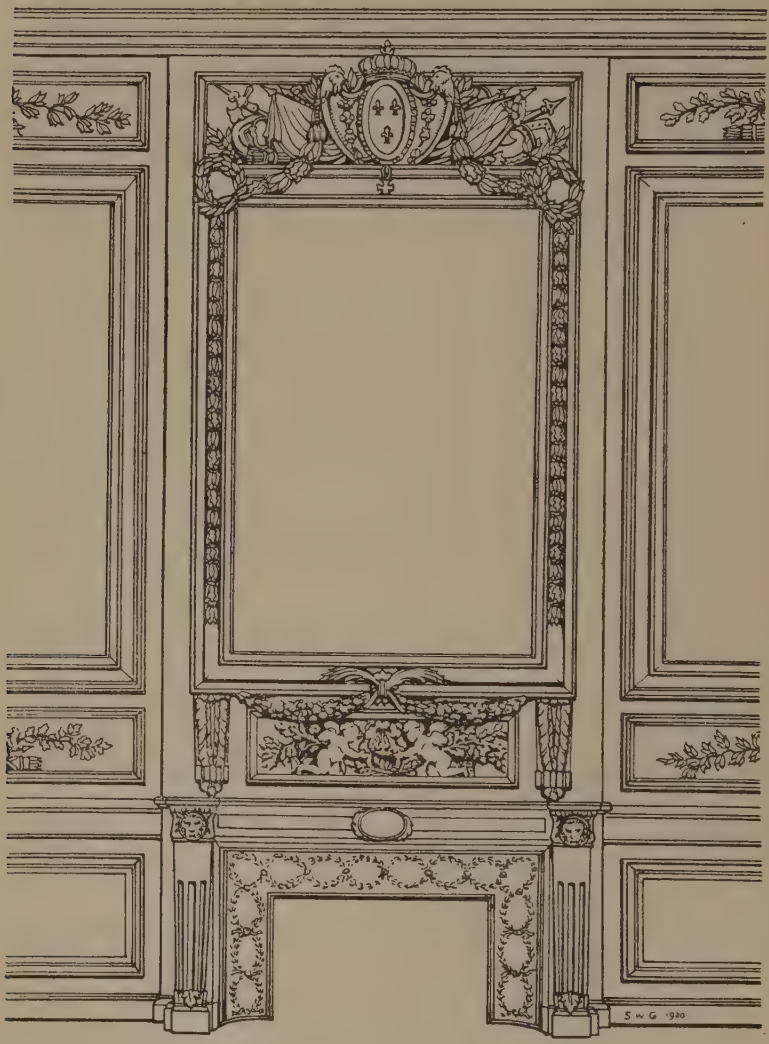
Towards the end of the reign of Louis XV there was a distinct change in taste, and consequently in style. This was manifested by a return to simplicity of line,



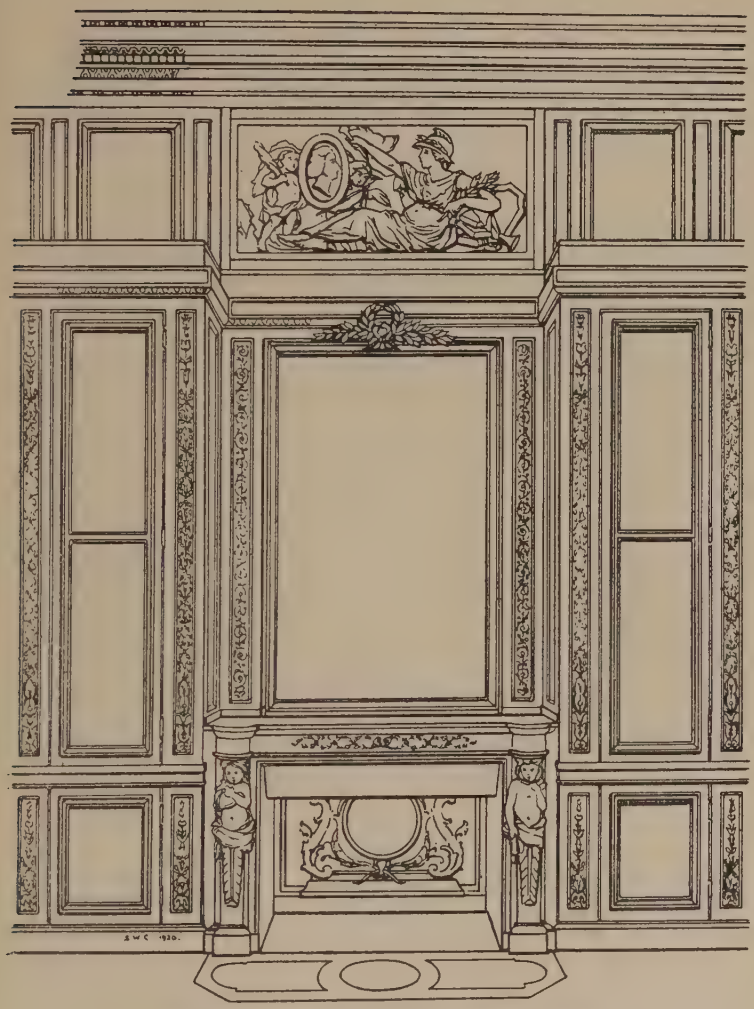
No. 126. Painted Interior Decoration. Marie Antoinette Boudoir. Louis XVI.



No. 127. Interior Treatment. Louis XVI.



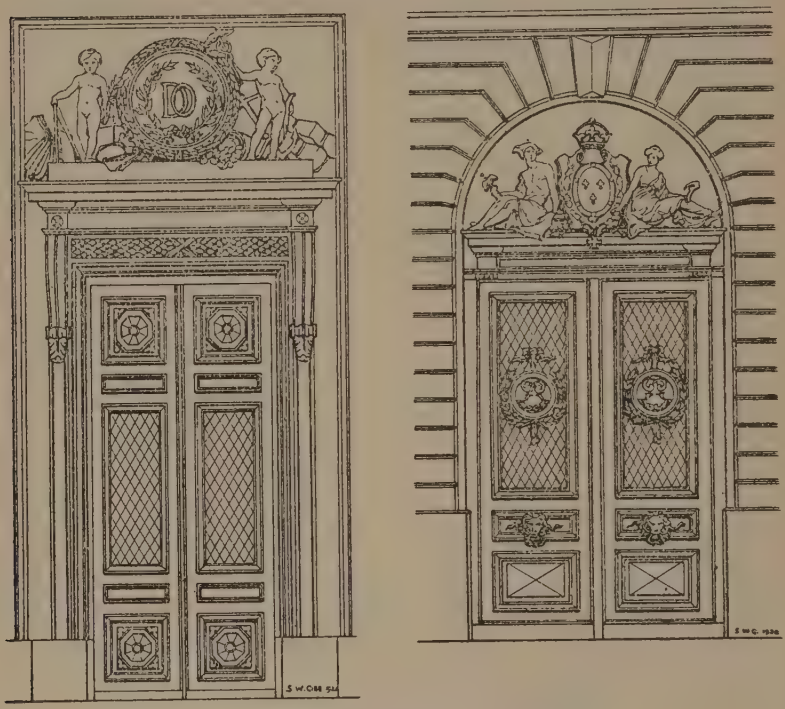
No. 128. Chimney-piece with Mirror. Louis XVI.



No. 129. Library with fitted Book-cases. Louis XVI.

a more sparing use of enrichments and greater refinement of detail.

Probably the same influence that inspired Adam

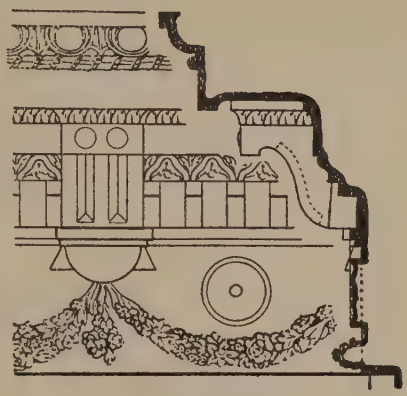


No. 130. Door Treatment. Louis XVI.

was at work in France, when the license that marked the Rococo gave place to a more severe and restrained expression in the succeeding Louis XVI style, in which the curvilinear and plastic forms became once more structural in feeling and refined in detail.

Associated with this change was Jacques Gondouin, who died at Paris in 1818 at the age of eighty-one, whose most celebrated work is the Ecole de Médécine.

He was also entrusted with the erection of the column in the Place Vendôme.



No. 131. Detail of Cornice. Louis XVI.

Riesener and Gouthière

The most familiar names associated with the wood-work at the Louis XVI period are Riesener and Gouthière. Riesener is famous for his furniture, and Gouthière for the highly finished chased mounts with which this furniture was decorated.

No. 132. Arm-chair covered with Beauvais Tapestry. Louis XVI.

Interior wood-work was generally of oak, painted white. Pilasters were used, and were either carved or painted in colours. Mouldings were frequently gilt.

Chairs and sofas were, in many instances, painted

white and partly gilt. They were upholstered in silk or Beauvais tapestry, the designs of which were in panel form specially made for the purpose.

Cabinets, tables and other pieces of furniture were often exquisitely inlaid with various woods, tulip, rosewood, pear, holly and ebony were the most common, and Sèvres porcelain placques and gilt metal mounts were also used to embellish them.

No. 133. Carved Oak Panel. Louis XVI.

Furniture supports, such as table and chair legs, were straight, tapered and fluted, with husks in the hollows of the flutes.

Among the decorative details were torches, quivers and other emblems, trophies, musical instruments, bouquets and festoons of flowers, and ribbons with peculiarly square and crisp folds. The laurel leaf was much used in borders, festoons and wreaths.

The style of the Louis XVI period was more severe than the preceding one, and was, in

fact, a reaction from the flippancy which characterised the reign of Louis XV. There was a tendency to return to more classic forms, which prepared the way for the still more austere Empire phase which was deliberately based on the Roman and Greek styles.

Empire

Furniture was made in mahogany, rosewood and ebony, and was decorated with brass mounts or with carved ornaments, which were gilded.

Furniture legs and supports were fashioned after Greek and Roman forms, human figures and sphinxes being often employed.

Inlay was used of ivory and metal, and this class of work attained a very high degree of excellence.

Metal-work was unquestionably good, except that the details were somewhat hard in character.

The most striking decorative features were sphinxes, winged figures of Liberty, masks, the thyrsus of Bacchus, laurel wreaths and festoons, which were all severe in treatment and delicate in execution.

Empire in England

The Empire style spread to other parts of Europe, and was closely imitated in England, where it was chiefly remarkable for the extreme nicety and finish of the metal-work, metal being extensively used for the enrichment of furniture, for clocks, vases, candlesticks, inkstands and other objects.

Later English Architecture

Probably the most important name associated with English architecture towards the end of the eighteenth

century is that of Sir William Chambers, who died in 1796.

Chambers, who at one time held the position of Surveyor General in the Board of Works, was one of those concerned in the establishment of the Royal Academy of Arts in 1768. During his professional career he executed commissions in various parts of the country, his principal work being Somerset House, which was commenced in 1776.

Another name associated with this period is that of George Dance, who designed the Mansion House of the City of London, which was built during the years 1739-53. Dance died in 1768, and was succeeded by his son, who was the architect of Newgate Prison, the site of which is now occupied by a modern building.

A pupil of Sir William Chambers, James Gandon, had the distinction of carrying off the first gold medal given for architecture by the newly-founded Royal Academy of Arts in 1768.

He designed, among other works, the Customs House, the Four Courts, and the building which is now the Bank of Ireland, all at Dublin.

French Influence on Europe

Throughout this necessarily brief summary it will be noted that attention is mainly given to the architectural development in France and England. The rest of Europe was similarly affected more or less, both in the Gothic period and in the revival known as the Renaissance, in which the initiative was taken by France early in the seventeenth century. From which period may be dated the decline in Italian taste.

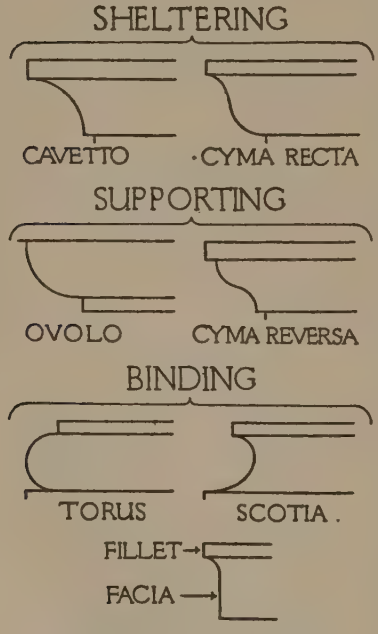
French feeling, both as to form and detail, is apparent in not only Dutch and Flemish work, but in the more southern parts of Europe, particularly the phase known as Rococo.

Even in England, though the architectural traditions of Inigo Jones and Sir Christopher Wren became national in character, French feeling is evident in much of the decorative work, as in the designs of Chippendale and his contemporaries; with the exception of the brilliant period of Grinling Gibbons, whose distinctive manner and robust treatment survived, and constituted a school of carving typically English and unique in its artistry and craftsmanship.

CHAPTER III

MOULDINGS

IN Architecture the edges of projecting courses are softened into curved profiles, sometimes enriched with details, which are technically known as mouldings. These are invariably a stumbling-block to the beginner, presumably due to want of appreciation of their purpose, which properly understood, is indicative of their desirable employment.



No. 134 Forms of Mouldings.

Mouldings are an important factor in effect, not only in Architecture, but in structural form generally. In flat decoration they have to some extent their corollary in borders, the proportionate widths of which are governed by similar rules.

Of mouldings with curved profiles there are only six distinct forms, though the individual character of these curves is subject to great variation in treatment.

Purpose

As suggested, mouldings have a distinct purpose, are, in fact, functional features, and may be defined as Sheltering or Crowning, Bracketing or Supporting, and Binding.

In any composition where they may be necessary these functions should be taken into consideration.

The profiles should always be concise whether the character of the curve be refined or robust.

In classic architecture the relative proportions of the mouldings to the other features are defined, and these proportions will be found useful in other than purely architectural design.

The Fillet

Mouldings are divided from each other by narrow vertical bands or Fillets, the employment of which is universal.

The Fillet in projection is equal to its height, and though strictly divisional in its employment, is shown in conjunction with the curved profiles to indicate relative proportion.

Sheltering Mouldings

There are two mouldings of curved profile in each category, the Sheltering being the Cavetto and the Cyma Recta.

The Cavetto

The Cavetto is the culminating moulding of the Italian Doric cornice, and is a concave curve, which may be the result of a quarter circle.

The Cavetto profile is used in other positions, which would appear to challenge the previous statement, but reflection will confirm the contention.

For instance, the vertical face of the Frieze in some instances terminates with a cavetto curve which, though surmounted by the cornice, is yet at the top of the frieze. The upper extremity of the column shaft is similarly treated, and, it may be urged, so is the lower, but this, though an exception to the rule, is at least an æsthetic necessity.

The projection of the Cavetto is equal to the height of the curve, and the crowning Fillet may be from one-third to one-fourth the total height, preferably the latter.

Cyma Recta

The other sheltering moulding, the Cyma Recta, is a curve of double flexure with upper fillet. Its proper employment is as the crowning member of the cornice, though, like the Cavetto, it is employed in other positions, notably as a plinth moulding, when it appears in a reversed position.

The projection is about equal to the height of the curved profile, the height of the crowning fillet being from one-fourth to one-fifth of the whole.

Bracketing Mouldings

The supporting mouldings are the Ovolo and the Cyma Reversa.

The Ovolo

The Ovolo is composed of a full convex curve, either a quarter circle or slightly elliptic, which in height is

equal to projection ; and a fillet at base one-fifth the total height. Frequently this lower member is in the form of a half round bead of the same dimension as the fillet.

As a Bracketing moulding the Ovolo occurs in the capital of the Doric column, and in the Ionic and Corinthian cornices under the corona or facia, and is employed in other positions, where the sense of support is justified.

Cyma Reversa

The Cyma Reversa, like the Cyma Recta, is a curve of double flexure, and is headed with a fillet one-third to one-fourth the total height. The projection is equal to the height of curved profile.

The Cyma Reversa is employed in the cornice of the Doric order as a supporting moulding to the dentil course and below the culminating Cavetto. It also occurs in the Capital of the column, where it forms the upper member of the abacus. An apparent contradiction of the theory of employment, which however is justified by the circumstance that the column forms the support for the entablature.

It also occurs as a supporting moulding under the capping of the pedestal, and is used in similar positions in the other orders.

Binding Mouldings

The Binding mouldings, the Torus and the Scotia, appear chiefly on columns and pilasters, particularly the Scotia, which is essentially a base moulding.

The Torus

The Torus is a convex curve composed of a full half circle, with upper fillet one-fifth to one-sixth the total height. The projection is decided by the curvature, which is based on a semi-circle with centre slightly in advance of the vertical line of fillet.

The Torus varies in size according to position. For instance, in the base of the Ionic column two are employed, the lower being the larger. It is also invariably used on a smaller scale as a necking moulding beneath the Capitals ; in the small form it is commonly known as a bead or astragal.

This employment of the Torus is distinctly appropriate and suggestive in the sense of imparting strength by binding. When used in other positions its purpose should be equally evident.

The Scotia

The Scotia in section is a deeply recessed concave curve with upper fillet, and is generally used between the upper and lower Torii of the base.

The upper fillet is of less projection than the lower extremity of curved profile. The extreme projection being merely equal to the height of curve and that of the upper fillet about one-half, the fillet being about one-fifth the total height.

The Facia

The foregoing constitute the range of mouldings with curved profiles, but there is another member, the Facia, that is an important feature in composition.

The Facia, which is rectilinear in form with external

face vertical or slightly inclined, may be classed with the binding mouldings.

With regard to proportion, the height of the Facia should either exceed or be less than that of the curved moulding with which it is invariably surmounted. The projection being either considerably less or more than its height.

When used in the cornice or in the capping of pedestals its under face is generally recessed, this recess being equal to the height of the top fillet of supporting moulding.

Only occasionally the Facia is furnished with an upper fillet (for instance, when it occurs immediately below the Cyma Recta) to which it is reconciled by a Cavetto curve.

The Facia is a divisional feature between the mouldings of curved profile to which it is in valuable contrast.

Decoration of Mouldings

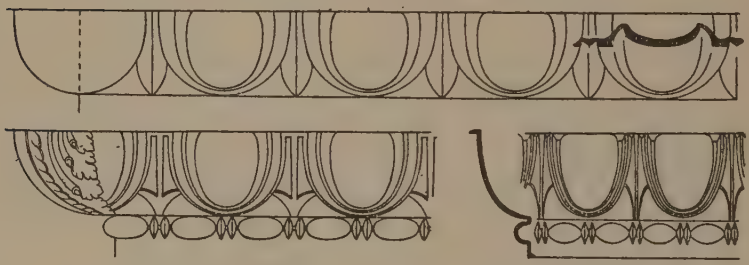
Mouldings may be plain or decorated, usually by carving, the details probably being derived from the painted decoration of an early period.

When thus enriched the moulding is formed as to its profile, and the details carved back from the face, leaving the highest parts in the original surface. The carving being deeper and more sharply defined in the case of mouldings that are in shadow. Such, for example, as the Ovolo, and in lighter relief on those more exposed to direct light.

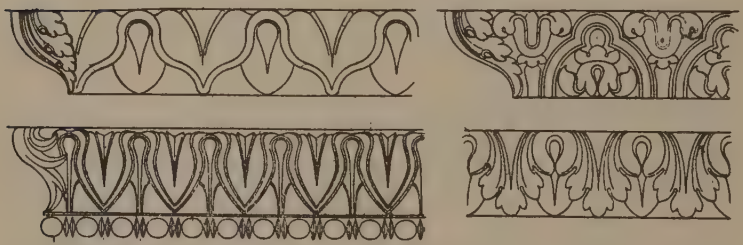
The decoration of mouldings ordinarily consists of the repetition of a unit, composed on a central axis, in which curves are contrasted with vertical features.

ENRICHMENT OF THE CYMA RECTA

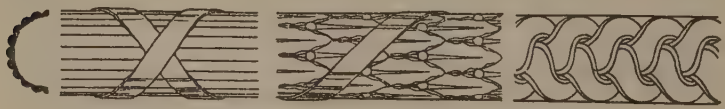
ENRICHMENT OF THE FACIA



ENRICHMENT OF THE OVOLO



ENRICHMENT OF THE CYMA REVERSA



ENRICHMENT OF THE TORUS

No. 135.

The principle involved is to base the detail on the sectional curvature or profile line.

Orthodox Details

Thus the orthodox detail of the Ovolo, technically known as the " Egg and Tongue," consists of a framing curve, which is obtained by repeating the profile on a centre line enclosing an ovoid shape. The angles between the outer curves being occupied by a tongue or dart.

As previously stated, this moulding is deeply carved, the ovoid being bold and well-rounded ; the edges of the framing curves (in some instances grooved or channelled) being left sharp and precise.

Frequently the " Bead and Reel " enrichment occurs at the base of the Ovolo instead of the Fillet, this being the characteristic detail of the Bead or Astragal.

The treatment of the Cyma Reversa is identical and results in the detail known as the " Leaf and Dart " ; but the carving is not so deep and the relief, in consequence, comparatively slight.

Angle Leaf

When mouldings meet at mitral angles it is customary to employ a covering leaf the midrib of which forms the angle.

The same principle is applicable to the Cyma Recta and the Cavetto, though these mouldings are more often left plain ; when decorated the relief is comparatively slight.

The Scotia needs no decoration, the cast shadow resulting from its form being sufficiently effective.

The Torus, though frequently left plain, can be decorated in various ways.

The Guilloche is perhaps the most characteristic, but as suggestive of its function, the Torus is at times carved in the form of a rope or cable. Leaves suggestive of a wreath are used, also a reed band crossed at intervals with ribbons, quite in keeping with the suggestion of binding.

The Facia is generally plain, but the decoration, if used should, following the principle, be rectilinear in character ; such as vertical flutings, or the key detail, both of which are used.

Dentils

Dentils, which form a distinctive feature in cornices, are a series of rectilinear blocks, attached to a Facia, and may be placed in the category of supporting members.

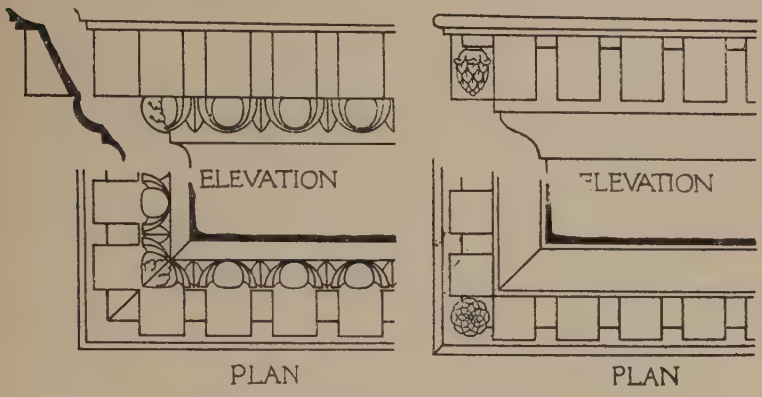
In their formation they are carved back from a facia of the requisite projection.

In proportion they should be from one and a half to one and three quarters their width in height, the intervals between being about half the width.

The first Dentil at the angle, lines flush with the return face of supporting Facia leaving a right angular interval between the two end Dentils. This space is sometimes occupied by a pendant knob, acorn-like in shape. The heads of intervals are often sloped backwards and downwards, or occupied by a narrow fillet set back from face. Below the Dentils the supporting Facia is displayed to about the height of a fillet.

Considerable license prevailed in the later developments of the Renaissance in the decoration of mouldings,

license which is permissible providing the general principle be borne in mind. The concensus of opinion



DETAIL OF THE DENTIL

No. 136.

is in favour of repetition of a simple unit and absence of variety. The vertical tendency resulting from the bi-symmetrical character of the unit is desirable, and in happy contrast to the horizontal direction of the moulding, while it also emphasises the sense of structural support.

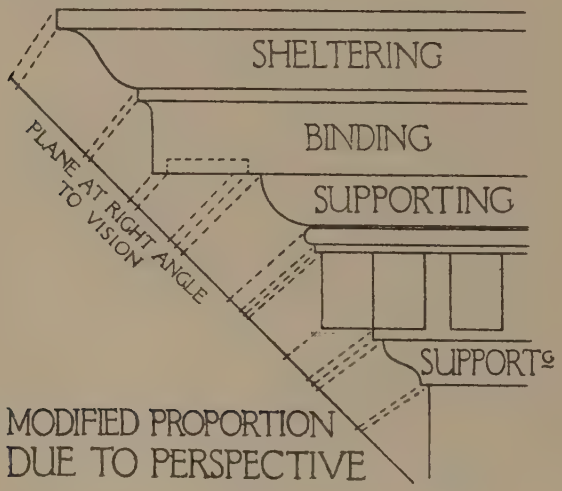
The profiles also are amenable to considerable variation, the curves being the direct result of Geometry, or Freehand, either treatment being a matter of attitude and discretion.

Employment

When employed in Architecture the forms and proportions given will be found most suitable. In interior decoration and structural work, as in furniture, considerable latitude is permissible.

It must be understood that the profiles of mouldings should not be designed merely for the play of line, but for the effect resulting from light and shade. In those close to the eye and in fair light, elliptic curves will be more effective than more rounded sections, which are most suitable to remote positions.

In composition, mouldings of curved profile should always be separated by fillets or occasionally a facia, and the various members associated with regard to their functional purpose. Obvious repetition of the same dimension is to be avoided, and contrast should exist not only in the shapes of profiles, but also in their respective heights.



No. 137.

Attitude

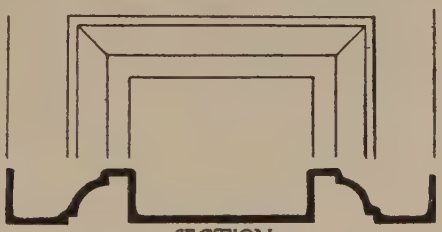
Attitude must be taken into account, as, for instance, in a cornice which is above the eye level it is apparent that the mouldings will not appear in elevation but in

perspective ; and not only the respective heights will be visible, but also the projections.

When mouldings are decorated the details ranging above each other should be so distributed as to fall in vertical alignment. This is particularly necessary when the Ovolo enrichment occurs below dentils, or where it is surmounted by Modillions as in the Corinthian cornice.

Panel mouldings cannot legitimately be considered as functional in the foregoing sense, though in wood-work they are directly incidental to the construction. Regarded as frames, their general purpose may be considered as to bind or enclose.

In stone-work it may be at times desirable to introduce panel effects, which may be obtained by boasting out or recessing parts, possible only on a large scale. A comparatively simple and justifiable treatment is to sink channels of moulded profiles framing the enclosed area, which is left in the original plane. A treatment that is effective and comparatively economical.



SECTION

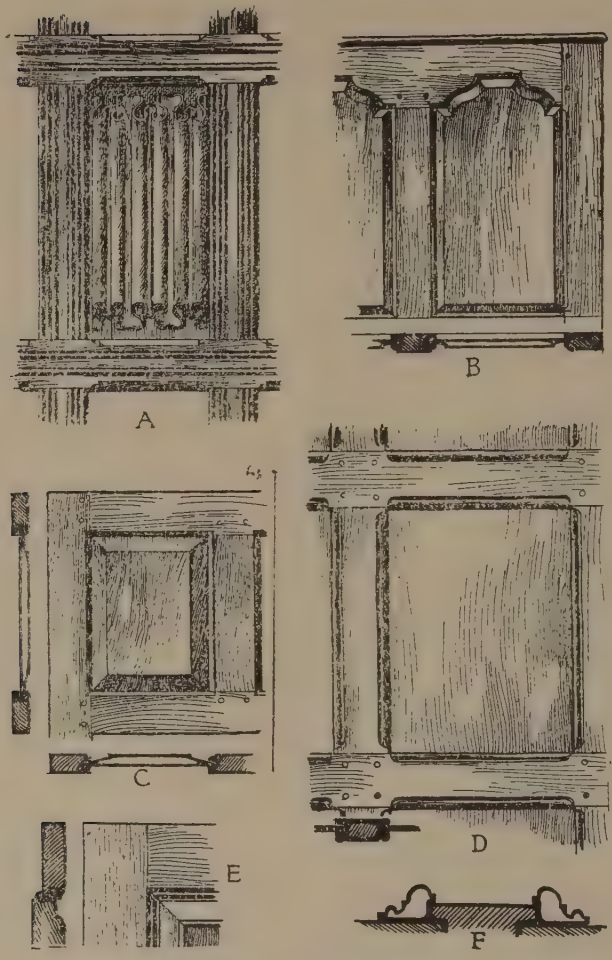
CHANNELLED MOULDING IN STONE

No. 138.

Wood Panelling

Panelling in wood-work is not only legitimate, but structurally necessary, as it is not practical to cover large areas except by some method of building up.

Therefore, not only panelling, but doors and structural wood-work generally are constructed of stiles



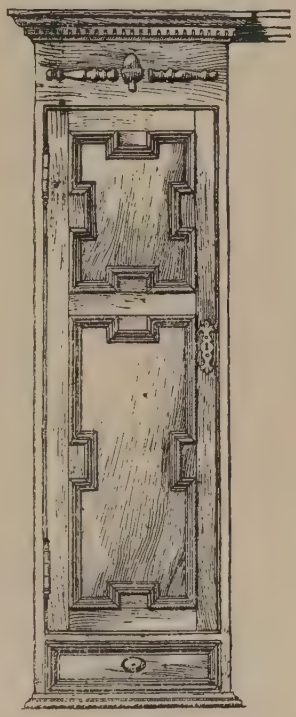
No. 139. Panel Mouldings in Wood.

A. Late Linen-fold Panel, with scribed mouldings on stiles and rails.
B. C. Panels of Settleback and Chest, with framing with simple moulded edges.
D. Early Jacobean Panelling, with stopped mouldings on stiles and rails.
E. Later Jacobean Panelling.
F Later Jacobean Section of applied mouldings of the Bolection type.

and rails, forming framings ; the spaces enclosed being occupied by the panels.

The edges of the stiles and rails are moulded. In the late Gothic and Tudor periods the mouldings were often simply scribed ; but later the profiles became more distinct in contour.

These early mouldings were narrow and simple in form, arrived at mainly by softening or rounding the square edges of the frame.



No. 140. Applied Mouldings.

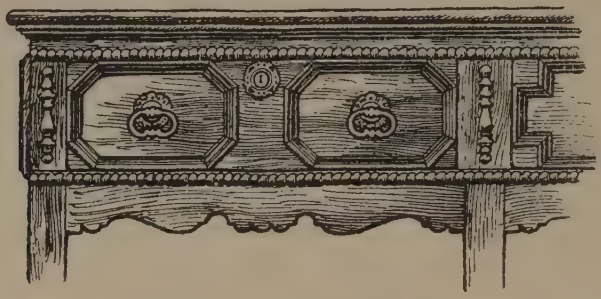
Applied Mouldings

Applied mouldings were apparently employed in the Jacobean period, and the sections became more elaborate. Worked independently, they were frequently higher in relief than the framings. The facility with which they could be worked and applied resulted at this period in a fashion for complicated mitreing hardly justifiable from a constructional point of view, though effective if not overdone.

In the composition of such mouldings it is desirable that the sizes and contours employed should be contrasting, and that all curved sections be divided by fillets.

As the width of the moulding throughout is uniform, it is obvious that mitral angles must be perfect bi-sections of the meeting lines.

With regard to proportion, the width of mouldings may generally be one-fourth to one-eighth that of the panel according to desired effect, robust or refined.



No. 141. Part of Dresser.
Applied mouldings on drawer fronts.

Bolection Moulding

When boldness in appearance is required the type known as the Bolection Moulding may be used. This, in its orthodox form, is a species of inner frame between the main framing of the stiles and rails, and the panels, but was more commonly an applied moulding.

No. 142.
Bolection
Moulding.

In any case, it is worked independently, and its outer edges lap the framing, on which it is in relief, resulting in strong effect of light and shade.

Panel mouldings may be decorated by carving with the orthodox enrichments or variants based on them, but should always be in contrast to the panels they enclose.

In furniture, mouldings play an important part, and in many positions can be regulated by functional considerations. In horizontal positions, such as in tables and sideboards, where personal contact

is possible, any moulded edges should be of softly rounded character for obvious reasons.

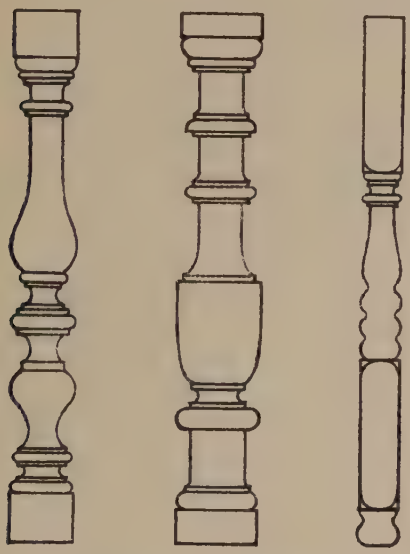
TABLE TOP MOULDINGS

No. 143.

Plaster

In plaster-work mouldings may be cast in a mould or run by the strigil. When decorated, the former only is possible, and as such work is originally modelled, it is permissible to introduce details of a plastic nature, such as interrupting the run by imposed and enveloping floral or other forms.

Mechanically produced mouldings cannot be undercut, though this is practicable in plaster where the jelly mould is employed.



TURNED WOOD

No. 144.

Mouldings are used for decorative and divisional purposes in various materials, and to some extent their character is affected by the formative process involved.

Wood-turning

Thus in wood-turning the general profiles are kept fairly soft, taking usually, as in the case of stair rails and furniture legs, the baluster form. As a rule there

is little variation between the maximum and minimum diameters.

The baluster shafts have bases and capitals of curved profiles, with intervening fillets, which latter may be fairly sharp, as they are by their position protected from damage.

No. 145.

Metal Turning

Turning is also employed in metal work, the stems and bodies of Dutch candelabra, both standard and hanging, being originally cast as to general form and finished in the lathe.

The general treatment is similar to that of wood-turning, except that the material being much harder, the mouldings can be more sharply defined and delicate in detail.

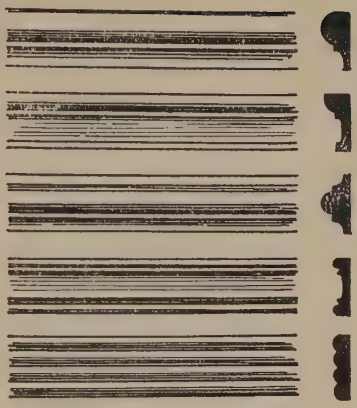
Pottery

The throwing of pottery is analagous to turning, but by this method little more can be accomplished than thickened edges. The Greek vases show some precision of profile, the result of turning on a lathe after the vessel had been formed on the wheel.

In moulded pottery more definition is possible than in thrown variety,

No. 146. Moulded Vase in Terra-Cotta.

but the profiles are comparatively blunt and never attain the precision due to turning.



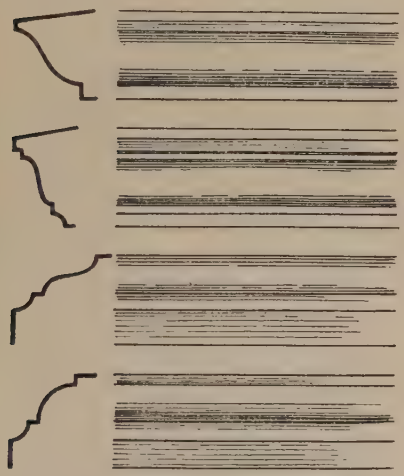
ROLLED METAL MOULDINGS

No. 147.

Metal Mouldings

In metal, mouldings may be rolled or drawn. In the first they are formed in the solid, but drawn mouldings are formed in plate or sheet metal and are therefore hollow and of uniform thickness.

By either method mouldings of any required section are obtainable provided they are not undercut.



DRAWN METAL MOULDINGS

No. 148.

Both varieties are ordinarily obtainable in various sections and sizes in iron, brass, bronze, and silver.

Where special sections are required, the cost of the tools necessary for their production would have to be taken into account.

Wrought Iron

Though the employment of rolled or drawn

mouldings is usual in wrought iron-work, the effect is somewhat mechanical and lacking in character. Pre-

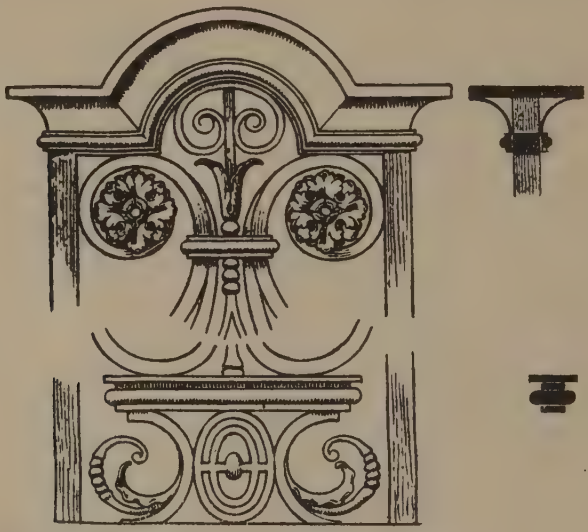
No. 149. Wrought Iron Swaged Moulding.

No. 150. Wrought Iron Built-up Mouldings.

ferably only such forms as are attained by either swaging or building up should be employed as being more characteristic of the material and method of working.

Silver-work

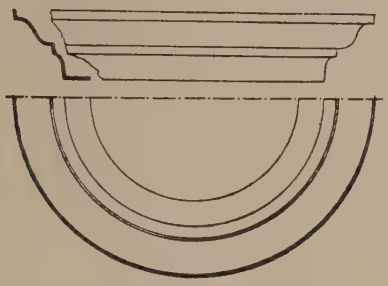
In silver-work drawn mouldings are usually formed by hand, the necessary draw plates being made by the workman.



No. 151. Wrought Iron Built-up Mouldings.

Spinning

Mouldings in metal are also formed by the process of spinning, in which undercutting is not permissible.



SPUN METAL

No. 152.

Repoussé

They are also possible in Repoussé work, but are soft in character, and lack the precision that marks the mechanical production.

CHAPTER IV

ARCHITECTURAL PROPORTIONS

Introduction

IN architectural drawing concise draughtsmanship is essential, the profiles of mouldings in particular should be well defined.

Architectural designs, which should always be drawn to scale, are expressed geometrically, that is in plan, elevation and section. The actual effect is therefore a matter of conjecture only to be grasped by those familiar with the arbitrary form of expression. Perspectives are generally made with a view to depicting the appearance to the unititiated, but are practically useless as working drawings.

The student is advised to take advantage of every opportunity of studying existing examples in museums and elsewhere. This study should not be confined to geometric drawings, but these should be supplemented by sketches and careful observation. Attention should also be paid to the profiles of mouldings.

A practice should be made also of making freehand sketches of the various features, indicating broadly the effects of light and shade.

The study of architectural proportions should be methodical, and the general divisions given here might advantageously be committed to memory. When this is accomplished attention may be devoted to individual features.

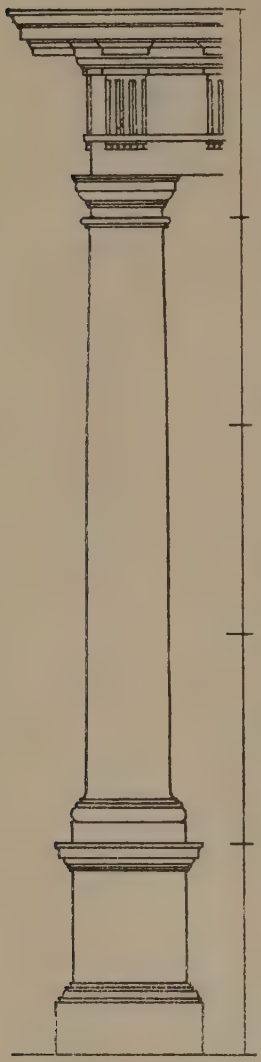
System of Proportion

It is customary, when any of the orders of Architecture are employed, to adopt a system of proportions which has been evolved from the best traditions of the past, and is generally accepted as the most satisfactory.

Naturally these proportions are subject to modification to suit special conditions or personal treatment. According to the academic method, the diameter of the column is divided into two parts, which are called Modules, and each of these is again subdivided into thirty divisions called parts. This gives a scale by means of which all dimensions of height and projection are obtained. Since the diameter of the column forms the standard of measurement, the proportions of the relative parts are constant and in no way influenced by the size of the structure.

This method, although very complete, is—owing to its multiplicity of dimensions—somewhat laborious in practice, and the method here proposed in its stead, though not claimed to be exact, will yet be found to be sufficiently accurate for ordinary requirements.

It is proposed to deal here with the orders commonly employed in Renaissance architecture. These were based by the early exponents of the style on Roman examples. The Doric selected is that of Vignola, and is a refined version of the order used in the Theatre of Marcellus at Rome. The Ionic closely resembles the Roman Ionic order in the same building. The Corinthian is the Roman example from the Pantheon.



No. 153. Doric Order with Pedestal.

The Order

An Order consists of a vertical column and a horizontal entablature, while in some instances the column rests on a pedestal.

It is desirable before dealing with proportions to enumerate the various parts of which an order is composed.

The column consists of a shaft, base and capital.

The shaft is circular on plan and invariably tapered.

The base is composed of mouldings, which are circular on plan, and a rectangular block or plinth.

The capital is circular on plan, and in the Doric and Corinthian orders is divided from the shaft by a necking moulding. The capital is surmounted by a feature known as the abacus, which is rectangular on plan, but varies in detail in the different orders.

Columns may be isolated or engaged, that is, built into walls so that they form projections from the surface.

The pilaster is always engaged, and is rectangular on plan, but otherwise it has the same general features and proportions as the column.

The entablature is the superstructure supported by the columns. It consists of an architrave, which is the lowest part, a frieze, the intermediate part, and a series of projecting mouldings known as the cornice.

The pedestal, which occasionally forms a support for the columns, consists of a plinth, die and capping. The lower part or plinth is separated from the die by mouldings, and the capping is a projecting course of mouldings forming a simple cornice.

To sum up a simple classification, which may be termed the triology of the orders, will be found to assist the memory.

The Orders commonly employed are three—the Doric, Ionic and Corinthian. (There are two others which are less used, and are really derived from the other three : they are the Tuscan, which is a form of debased Doric, and the Composite, which is made up of the Ionic and Corinthian).

The Order may be divided into three parts :

Pedestal, Column and Entablature.

These may again be sub-divided.

The Pedestal into Plinth, Die and Capping.

The Column into Base, Shaft and Capital.

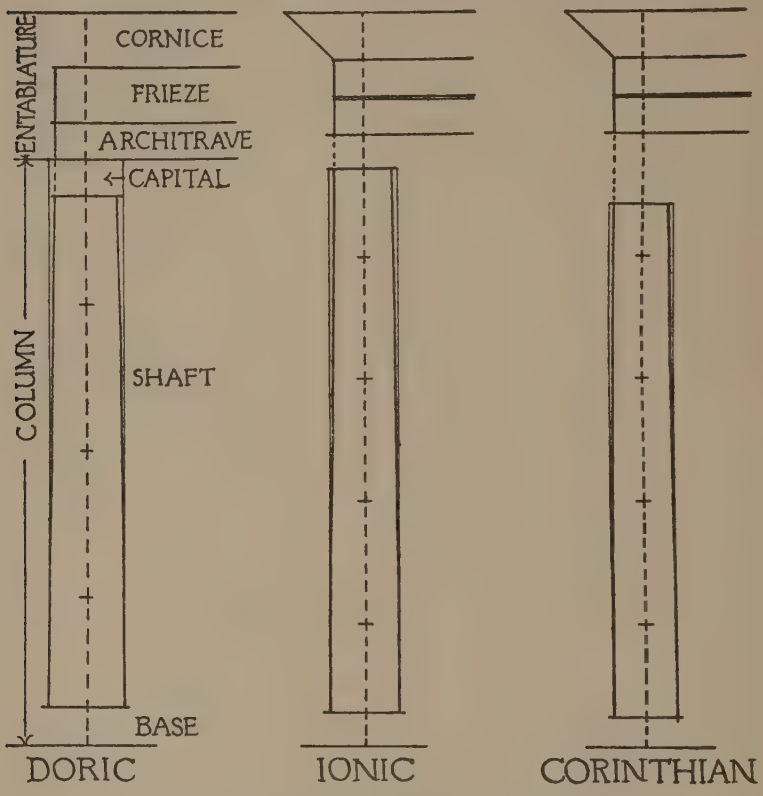
The Entablature into Architrave, Frieze and Cornice.

The method of arriving at the proportions of the order is as follows. In this division the pedestal is not taken into account, but is reserved for later consideration.

Doric Order

Divide the total height into five equal parts. Then the upper fifth will give the height of the entablature and an eighth of the remaining four-fifths the

diameter of the column. From this it will be seen that the column is eight diameters high and the entablature two diameters. In using the term diameter it must be



No. 154. General Proportions of the Orders.

understood that it is always the lower diameter of the column that is referred to.

The capital is half a diameter high exclusive of the necking moulding, and the base also is half a diameter. In all the orders the column is tapered ; the upper diameter is in each case five-sixths of the lower or major

diameter. The taper is not in a straight line, but a slight curve, which is known as entasis. It is obtained by drawing the lower third of the shaft vertical and from these lines springing a curve to the upper diameter, which may readily be done by slightly altering the angle of the pencil in ruling them.

The entablature is divided as follows: the architrave is half a diameter, the frieze and cornice each three-quarters of a diameter.

Ionic Order

The total height should be divided into six parts. Then the upper sixth will be the entablature, and one ninth of the remainder the diameter of the column, hence the column will be nine diameters high.

The capital is half a diameter high; the base also is half a diameter.

The total height of the entablature is divided into ten parts, three of these should be taken as the height of the architrave, three that of the frieze and the remaining four that of the cornice.

Corinthian Order

The total height should be divided into six parts. Then the upper sixth is the height of the entablature. A tenth of the remainder will be the diameter of the column.

The capital is one diameter and one-sixth in height exclusive of the necking moulding, and the base is half a diameter high, exclusive of the top fillet.

The division of the entablature is the same as that of the Ionic, and the mouldings, although more elaborate,

are similar in character. The architrave and frieze are each three-tenths of the height and the cornice four-tenths.

It will be seen from the foregoing that the diameters of the three orders are respectively one-eighth, one-ninth and one-tenth the heights of the columns, and that the entablature is, in the Doric, two diameters high or one fourth the height of the column ; in the Corinthian also two diameters or one-fifth the height of the column. The Ionic is intermediate between the two.

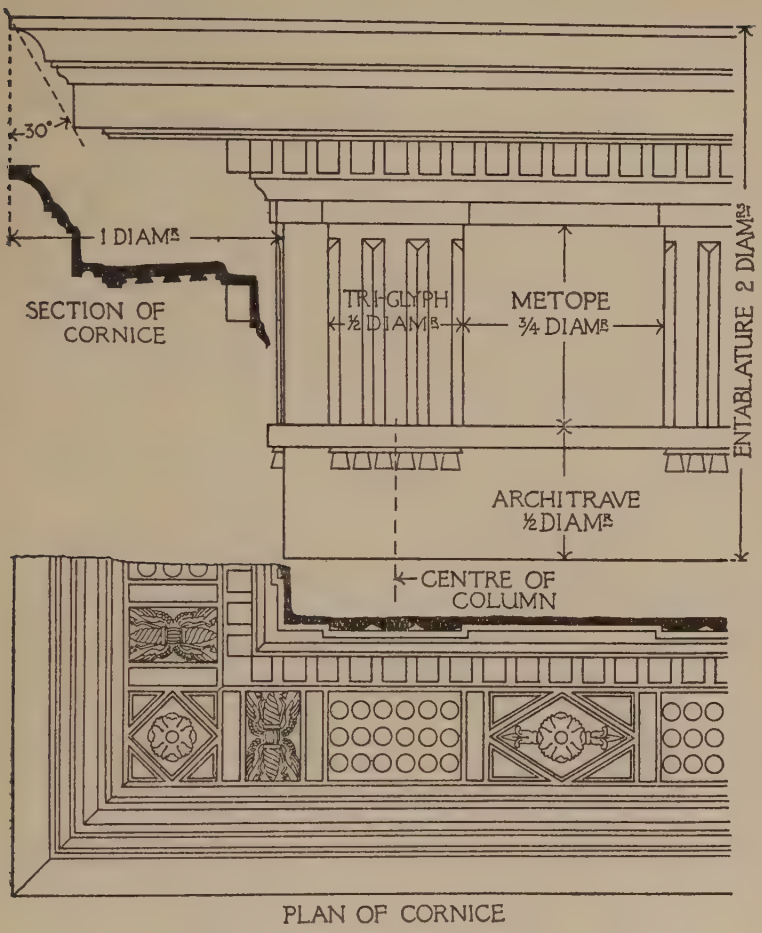
Doric Entablatures

The Doric cornice is three-quarters of a diameter in height and one diameter in projection from the face of the frieze, which should always be in vertical alignment with the architrave.

It is convenient to divide the cornice height into three. The upper third consists of a crowning cavetto moulding, supported by a cyma reversa, under which is a facia or corona, in turn supported by a dentil course. The lower third should be taken as the centre of the dentil course, and if the height from the top of the cavetto to the underside of the corona be bisected, the point of bisection should fall in the centre of the intervening reversa.

Mutules

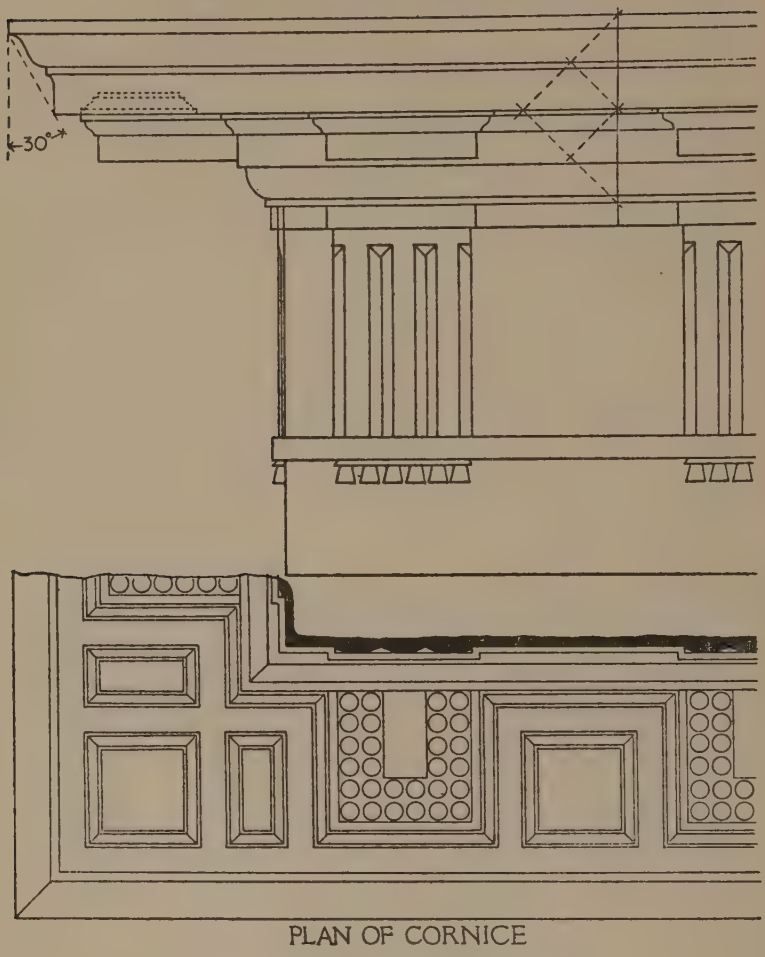
In orthodox examples of the order the underside or soffit of the corona is decorated with a series of sunk panels. Those immediately over the triglyphs of the frieze are occupied by rows of conical drops. A variation of this and a treatment frequently employed is a series of brackets known as mutules. They consist of a



No. 155. Doric Entablature, Vignola.

facia and a reversa, which is carried round the upper edge to support the corona. When mutules are used the dentil course is omitted.

The dentils are rectilinear blocks on a flat projecting band, and they are supported by a cyma reversa moulding. A fillet beneath this moulding completes the



No. 156. Doric Entablature, with Mutules.

cornice. The reversa is about the same height as the fillet, and the dentil course is about twice this height, but owing to the soffit of the corona sloping slightly upward and inwards the full height of the dentil facia is not apparent when drawn in elevation.

Above the dentil facia is a small cavetto moulding and a fillet. These are directly beneath the corona, and are carried round to form the panels on its soffit.

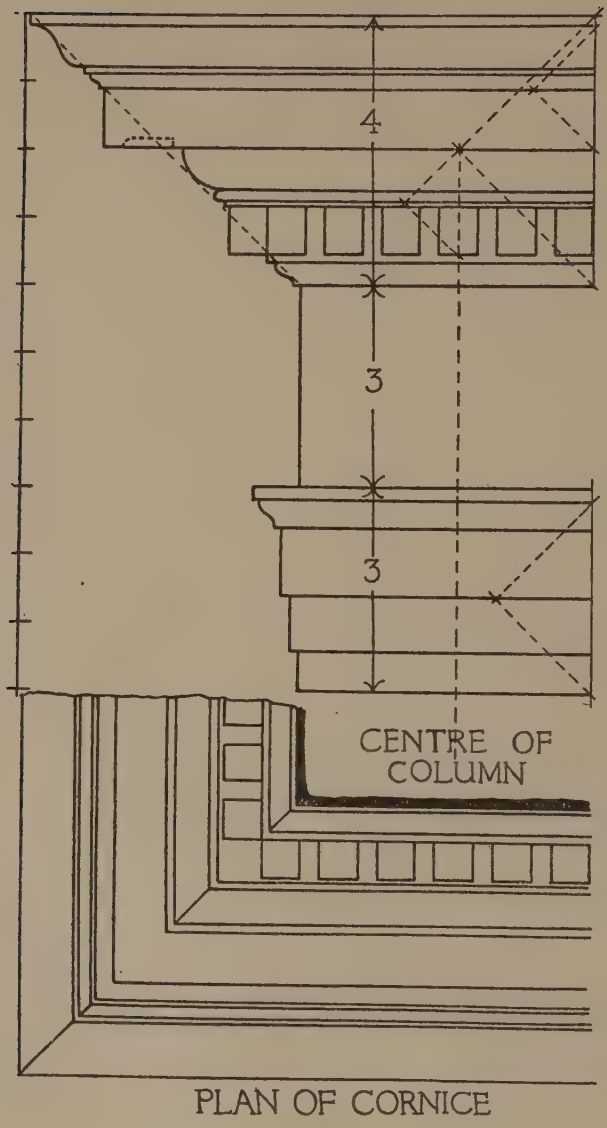
The Doric frieze is three-quarters of a diameter high. It is divided into panels technically known as metopes, by projecting features half a diameter in width which are called triglyphs.

The metopes should be square, and one of the triglyphs is always placed immediately over each column, having the same central axis, hence the spacing of the columns apart is regulated by the triglyphs and metopes Examples of various spacings of columns will be given later.

The frieze is bounded above and below by rectilinear projecting bands or fillets ; that at the top breaks round or follows the projection of the triglyphs.

The triglyphs are so named because they are channelled vertically with grooves or glyphs, V shaped in section, with intervening spaces or inter-glyphs. The width of the triglyph should be divided into twelve parts—then the half glyphs which are placed at the angles will each be one of these parts, and the remaining two glyphs and three inter-glyphs are each two of them. The glyphs terminate at the base on the fillet band, but at the top are cut off a little below the upper fillet, invariably in a straight line, thus forming a triangular heading with the apex of the triangle sloping backwards and downwards in conformity with the V shaped section of the glyphs.

Under the lower fillet band, and immediately below the triglyph, is a small fillet and six pendant drops of conical form known as guttae.



No. 157. Ionic Entablature.

The architrave is half a diameter high, inclusive of the fillet band, which is roughly a sixth of this height. The small fillet and guttae are together equal in height to the fillet band.

It may be taken as an invariable rule that whatever order is used, the face of the architrave must be in vertical alignment with the upper part of the shaft of the column.

Ionic Entablature

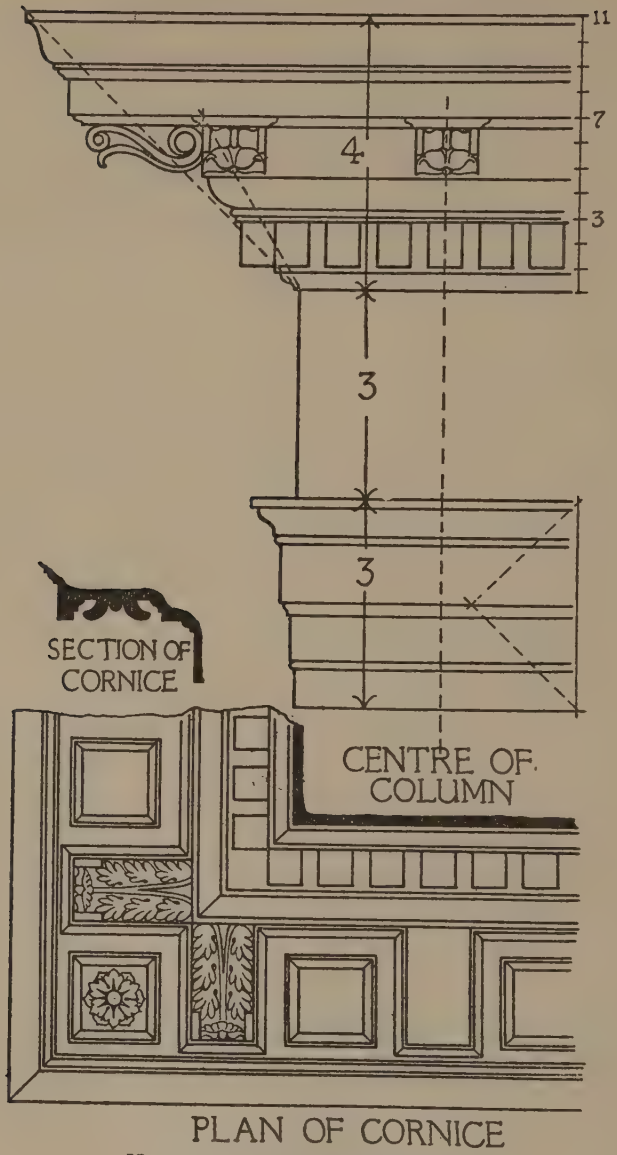
The total height of the entablature is divided into ten parts ; three of these should be taken as the height of the architrave, three that of the frieze, and the remaining four that of the cornice.

To find the projection of the cornice a line should be drawn at an angle of 45 degrees from the top of the frieze, and the profiles of the mouldings composing the cornice will fall within this line.

The lowest member is a small reversa moulding, with a fillet supporting a dentil course, above which is an ovolo ; these occupy half the height of the cornice. The remaining half is composed of the facia, surmounted by a reversa and the crowning cyma moulding, rather more than half of the height being allotted to these two.

The frieze of the Ionic order has no characteristic detail as the Doric, and may be plain or decorated according to conditions, and should be in vertical alignment with the lowest member of the architrave. In some of the later Renaissance examples the profile of the Ionic frieze is a segmental curve of about a third of a circle.

The architrave is usually formed of three facias, which may be either vertical or slightly inclined.



No. 158. Corinthian Entablature.

A fifth of the total height is taken for the upper moulding, which is a reversa with its accompanying fillet.

A point bisecting the underside of the fillet and bottom of architrave will give the line of the lower edge of the top facia. The other two facias should be taken in a decreasing ratio, the lower being the shorter.

Corinthian Entablature

The division of the entablature is the same as that of the Ionic. The total height is divided into ten. Three of these parts form the architrave, three the frieze and four the cornice.

An angle of 45 degrees set off from the top of the frieze will determine the general contour and projection of the cornice.

The cornice is more complex than in the other styles, but a division of eleven will help to determine, three being the height to underside of bead moulding and seven that of the main facia. The lowest moulding of the cornice is a cyma reversa supporting a dentil course with a bead moulding above it. Above the bead there is an ovolo, which forms the bed of a series of brackets known as modillions. The height of the modillions is about one-fifth including the reversa moulding, which, besides completing the modillions, is carried round between them as a support for the upper facia.

The modillions have a profile of ogee form. They are about a sixth of a diameter in width and project about twice their width, and are so spaced as to leave squares between them on the soffit or underside of the corona. The frieze, which may or may not be

decorated, is in vertical alignment with the lowest member of the architrave.

The architrave is made up of three facias with intervening mouldings. If the height be divided into two, the upper half is devoted to the first facia and reversa moulding, which latter occupies rather more than one-third ; the remaining half is taken up by the other two facias in a diminishing ratio.

The Column—The Shaft

The general proportions of the column have already been given. The shaft is invariably tapered for two-thirds of its height, the lower third being cylindrical, and the taper terminates at the necking moulding. In all three orders the difference between the upper and lower diameters is the same, that is, the upper is five-sixths of the lower, but although the amount of taper is numerically the same, the different ratios of the diameters to the heights produce naturally very different results.

The shaft of the Doric column may be plain or channelled with vertical grooves called flutes. There are twenty of these flutes round the circumference. On plan they are shallow, and may be formed of arcs of a third of a circle. The curves meet without intervening fillets. The flutes are finished off in segmental curves at the top and bottom, leaving a small plain space below the necking and above the base.

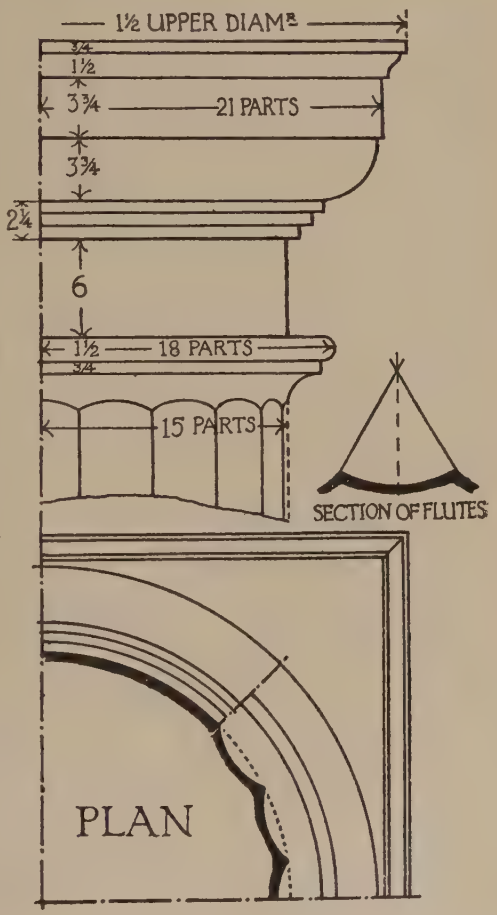
The Ionic and Corinthian columns may have plain or decorated shafts. If decorated they have twenty-four flutes round the circumference. These are semi-circular on plan, and are spaced with fillets between them.

The Capital

The Capital is the culminating feature of the column in which horizontal lines predominate in æsthetic contrast to the vertical lines of the shaft. In all the orders there is some form of crowning block or moulding known as the abacus.*

Doric Capital

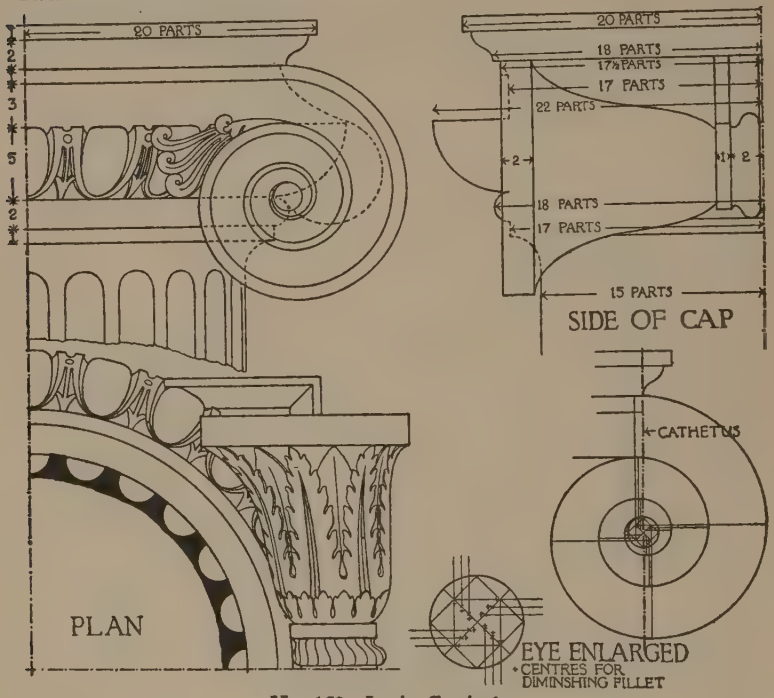
The Doric abacus consists of a rectangular slab, square on plan, which in detail consists of a fillet and reversa moulding surmounting a facia. Its extreme width is one and a half times the upper diameter. The square abacus is supported by an ovolo, which is circular on plan, and is connected with the necking by three small fillets.



No. 159. Doric Capital.

* Though the proportions given are approximately accurate for general division, it will be found necessary in detailing to adopt a more intimate system of measurement. In the following diagrams the diameter is divided into 36 parts, which are expressed in figures, giving heights, etc., of the various features.

The capital is half a diameter in height, exclusive of the mouldings between the necking and the shaft, and the upper part to the underside of the ovolo occupies rather more than half.



No. 160. Ionic Capital.

The necking is a vertical extension of the upper diameter of the column, and is separated from the shaft by a boldly projecting moulding, which in height should be about equal to the three small fillets below the ovolo. The moulding consists of a torus and a fillet, and a cavetto curve is carried from the underside of the fillet and dies into the line of the shaft of the column.

Sometimes the ovolo is decorated with its characteristic egg and tongue detail, and occasionally the

reversa of the abacus is also enriched. The necking is sometimes ornamented with four rosettes, which are placed centrally under the square faces of the abacus.

Ionic Capital

The Ionic capital is half a diameter high, and is readily distinguished by its bolster-like form with voluted ends. This bolster is rectangular on plan, and measures laterally rather more than one and a half diameters, while from back to front it is slightly less than a diameter.

The shaft terminates in a cavetto curve, and is surmounted by a fillet, a small torus and an ovolo moulding, which is invariably decorated with egg and tongue detail. These mouldings all conform to the circular plan of the shaft. On the ovolo rests the voluted bolster.

The abacus, which is square on plan, consists of a reversa moulding and fillet.

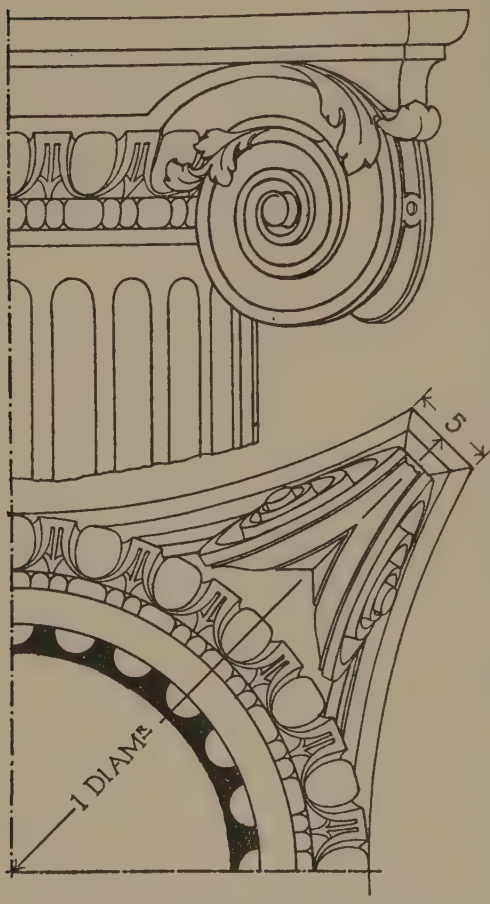
From the top of the abacus to the base of the ovolo the height is about a third of a diameter, and one-fourth of this height will give the height of the abacus.

The centre or eye of the volute can readily be found by dropping a perpendicular from the lower edge of the reversa to intersect the horizontal line defining the base of the ovolo. This point of intersection is the required centre.

To Draw the Volute

From this as centre and one part as radius describe a circle. Within this circle draw a square, having for a diagonal the diameter of the circle. Bisect the sides of the square and draw the diameters by joining the points of

bi-section. Divide these diameters of the square into six and these points will be the centres for the segments of circles which form the volute. Vertical and horizontal lines drawn from the centres will define the extent of each segment.



No. 161. Ionic Capital, with angular volutes.

For small scale drawings the volutes are drawn free-hand, but for larger working drawings it is necessary to use some method such as that given here.

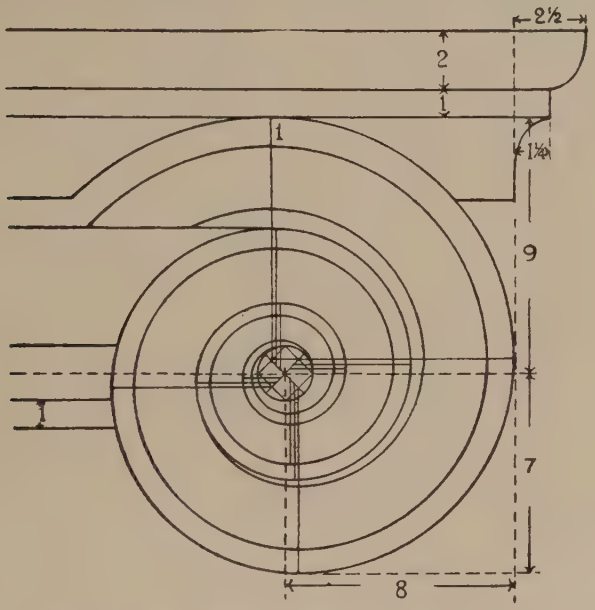
The angle formed by the meeting of the ovolo and the volute is masked by a detail of anthemion form.

The ends of the bolster between the volutes consist of concave or ogee curves, which are symmetrically arranged from a centre line; moulded ridges or conventional leaf detail decorate the centre.

The form of the Ionic capital, while suitable for a

façade, requires some modification if it is to be carried round the side of a building, owing to the great dissimilarity in the front and side views. In this case the end volute of the capital at the angle of the building is projected forward at an angle of 45 degrees, and the side is then treated in the same way as the front.

In late Renaissance buildings this difficulty was overcome by making all the volutes project at angles



No. 162. Ionic Capital. Detail of Angular Volute.

of 45 degrees, so that the four faces of the capital were uniform. This entails the bolster being dispensed with, and the volutes, no longer connected laterally, spring directly from the top of the ovolo moulding, and the space between the springing lines is occupied by a husk.

As the volutes make equal angles they conform more

or less to a square plan. The plan of the abacus is composed of four concave curves with small straight intervals at the meeting angles. The general proportions for this form of capital are the same as for the bolster type.

Corinthian Capital

The Corinthian capital differs widely from those of the preceding orders in proportion and detail.

Its general form may be described as a bell, which is circular on plan. It springs from the upper extremity of the shaft, from which it is separated by a necking moulding.

Under the abacus it terminates in a fillet.

The bell is one diameter high. The height of the abacus is one-sixth of a diameter in addition ; on plan the abacus falls within a square, having four concave faces with short straight lines at the angles. The distance across the diagonal is two diameters. The bell is clothed with leaves of acanthus type, which are arranged in two tiers of eight leaves each. Between the upper leaves are eight stems with husks and branching scrolls, which terminate in volutes at the angles and centres.

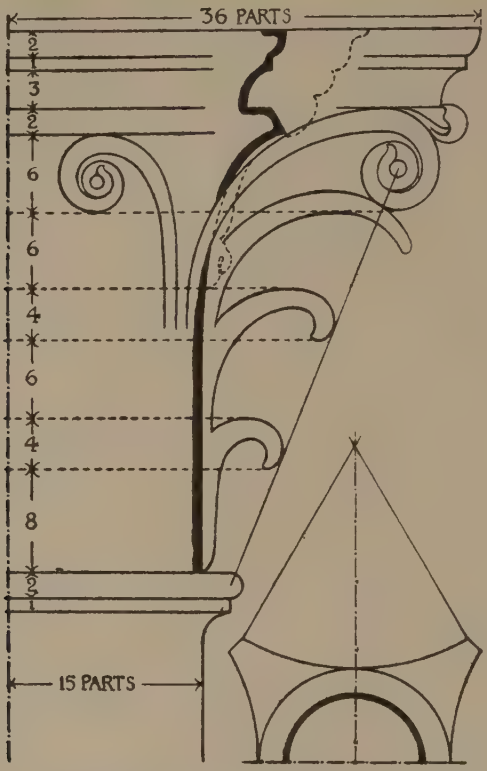
The necking moulding consists of a small torus and fillet.

Although the arrangement of the principal features of the Corinthian capital is horizontal, yet owing to the channelling of the leaves and the firmly springing scrolls the vertical direction appears to predominate.

This verticality emphasises the function of the capital as a supporting feature, and is æsthetically satisfactory, being in harmony with the flutings of the shaft.

No. 163. Corinthian Capital.

The effect produced by the capitals of the other two orders is horizontal, and suggests the idea of binding.



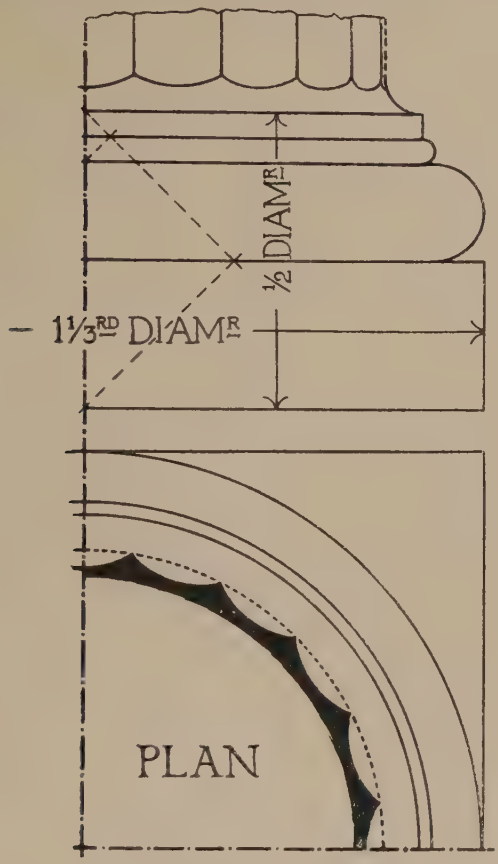
No. 164. Corinthian Capital.
Detail giving divisions of height, and profiles.

They are equally satisfactory as giving contrast of direction.

The Base

In all the orders a square plinth is the lowest member of the base of the column. On this plinth rests a series of mouldings which follow the circular plan of

the shaft. The shaft invariably terminates in a fillet, the diameter of which exceeds that of the column, and



No. 165. Doric Base.

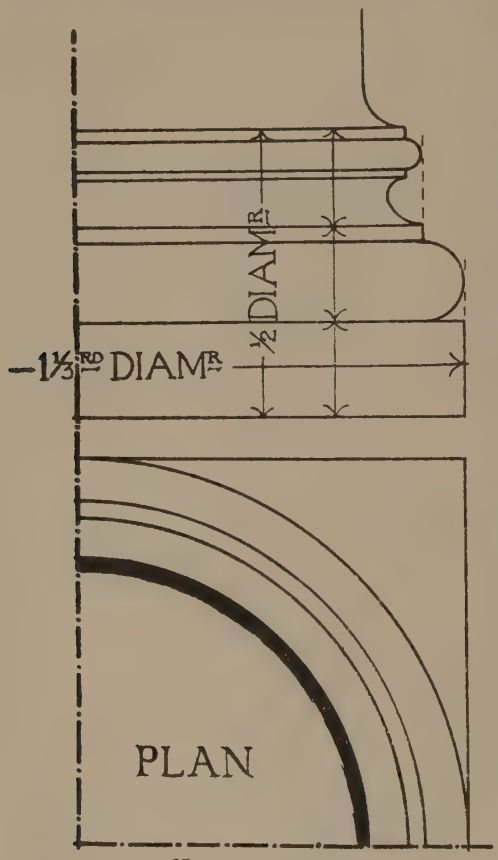
on to which the line of the shaft is carried by means of a curve.

Doric Base

The Doric base is extremely simple. It consists of the square plinth on which rests a torus moulding

surmounted by a smaller moulding of the same section and a fillet above.

The width of the plinth is one and a third the diameter of the column, and its height a quarter diameter or half the total height of the base. The other half is made up of the large torus, the small torus and fillet. The torus moulding should be bold in projection, practically semi-circular and at the fullest part of its curvature in vertical alignment with the centres of the horizontal faces of the plinth block. The small torus and fillet are about equal in height.



No. 166. Ionic Base.

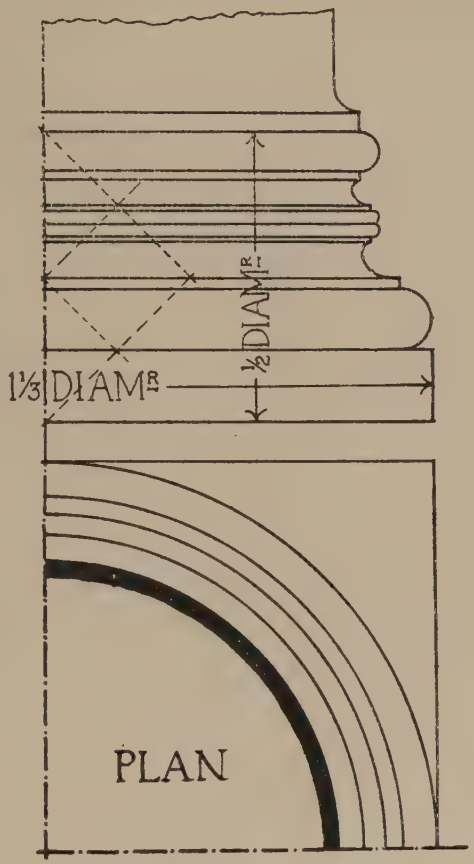
Ionic Base

The Ionic base differs from the Doric in the introduction of a hollow or scotia moulding between the two torus mouldings. Æsthetically it may be considered more satisfactory in that the strong shadow obtained by the use of the scotia

produces an effect of binding which adds to the impression of strength. The type is technically known as the Attic base.

The total width is one and a third diameter.

The height of half a diameter may be divided into three. One of these divisions will give the height of the plinth, one the large torus and the fillet above it, and the other the scotia and small torus with the fillets above and below. The fillets either side of the upper torus may be in the same vertical alignment.



No. 167. Corinthian Base.

The smallest diameter of the base, which will be in the hollow of the scotia, should exceed the diameter of the shaft, or an effect of weakness will be imparted.

As in the Doric base a curve of a quarter circle connects the shaft with the upper fillet.

Corinthian Base

The orthodox base of the Corinthian order is similar to that of the Ionic, with an additional scotia and small torus with its accompanying fillets.

The width of the plinth is one and a third diameter.

The height of half a diameter does not include the top fillet. The proportions may be approximated by dividing the height into four. One of these parts will be the height of the plinth, another that of the large torus and its fillet, the third—the upper edge of fillet of top scotia, and the fourth that of the upper scotia and torus with the intervening fillet. Vertically the uppermost fillet is in alignment with that of the upper scotia, and the extremity of the upper torus with the small bead mouldings dividing this from the lower scotia.

Although this is the orthodox Corinthian base, it is not used as frequently as the Ionic type, but when the order is on a large scale the more elaborate version is justified.

The Arch

When the arch is used in conjunction with the column it is supported on pilasters which are attached to the columns. The columns and pilasters thus form piers.

In the Doric order the columns are placed five diameters apart from centre to centre, in the Ionic five and a quarter, and in the Corinthian five and a half.

The necking moulding of the capital is generally carried through above the arch, the outer line of which is struck so as to nearly touch the underside.

The projection of the pilasters which carry the arch

is half a diameter from the outer lines of the column, and is measured on the same level as the springing point of the arch.

The centre from which the arch is struck is sometimes in the same horizontal line as the springing points, but more frequently a little above the line and thereby a rather better effect is produced.

The arch-band or archivolt is the same width as the pilaster supporting it, and a series of mouldings known as the impost is placed at the top of the pilaster. The base of the pilaster consists of a plain plinth of slight projection equal in height to the base of the column.

From the spacing of the columns and the proportions here given it will be seen that the height and width of the aperture made by the arch and pilasters are arrived at automatically, but if measured, the height will be found to be about twice the width and the top of the impost about two-thirds the height of the column. These proportions may be accepted as giving satisfactory results under ordinary conditions.

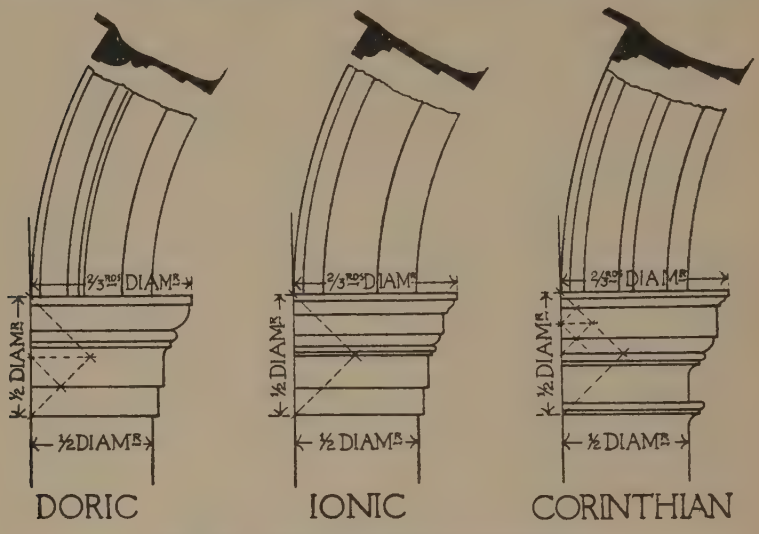
As a general rule, in all the orders the impost is half a diameter high, and so is the same as the projection of the pilaster and the width of the archivolt.

This rule is not always adhered to, however, but in any case the width of the archivolt should never be more than one-eighth or less than one-tenth of the diameter of the arch, and should always be the same as the width of the pilaster.

Doric Impost

The mouldings of the Doric Impost are as follows : At the top there is a fillet and a bold ovolo, below

which there is a bead-moulding or small torus with fillet and two facias. The lower facia, which is of slight



No. 168. Detail of Archivolts and Imposts.

projection is one-fourth of the total height. The upper facia and fillet are half the remainder.

Archivolt

The archivolt mouldings are in the Doric order, the same as those of the impost.

Ionic Impost

The total height of half a diameter may be divided into two, and the upper half sub-divided into three. Then the upper division will be the height of the top fillet and a reversa moulding ; the second the height of a facia and the third an ovolo and small torus.

The lower half of the impost consists of two facias, the upper of which is broader than the lower.

Ionic Archivolt

The archivolt, commencing at the outer rim, consists of a fillet and bold reversa moulding which occupies rather less than a fourth of the total width, and two facias of unequal widths. The width of the inner facia is nearly one-third more than that of the reversa moulding.

Corinthian Impost

The Corinthian impost differs from those of the other two orders in having a necking and necking moulding in place of the two unequal facias.

The total height should be divided into two, and the upper half divided into four. Then the top fillet and reversa moulding will be one of these divisions, the facia two, and the supporting ovolo will occupy the remaining one.

The lower half of the impost consists of a small torus and fillet beneath the ovolo, the necking, and the torus and fillet which form the necking moulding.

Corinthian Archivolt

The archivolt, commencing at the outer rim, consists of a fillet and reversa and three unequal facias.

If the total width is divided into two, the point of bisection will be the centre of a small reversa moulding between the two outer facias. The outer reversa and the inner facia are each about one-sixth of the total width and the small reversa is about two-thirds of the inner facia.

The Keystone

A projecting block, or keystone, is sometimes used

at the centre of the arch. The face width of its lowest edge should not be less than the width of the archivolt. Its height is not often less than one and a half times or more than twice this width.

It may be decorated in various ways, and is frequently in the shape of a console. This form is especially suitable when the keystone comes in contact with the architrave of the entablature, in which case it is capped with a moulded abacus.

The Pedestal

The height of the pedestal is a fourth that of the column and entablature together, though this proportion may be varied to suit different conditions. For instance, when the pedestal forms part of the structure of a balcony or balustrading the height must be modified to suit the special requirements of the position.

The pedestal is composed of plinth, die and capping.

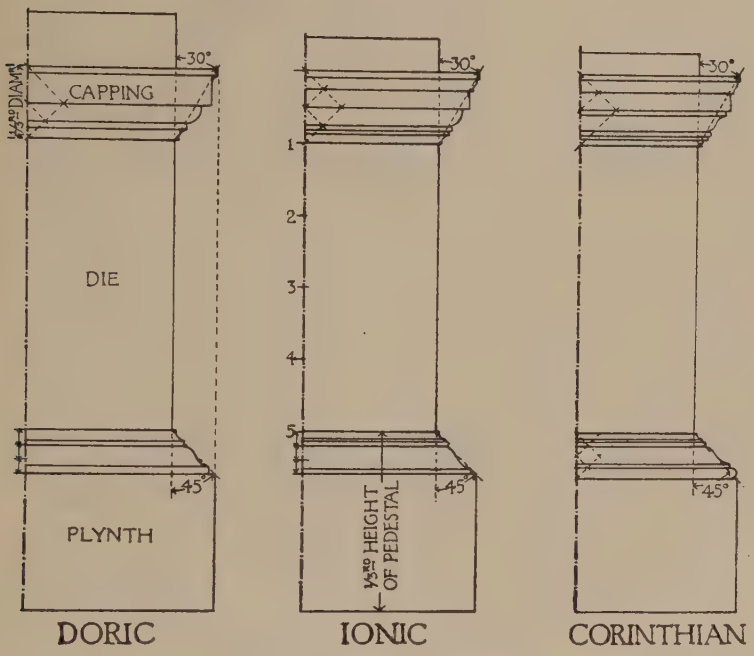
The width of the die is the same as the plinth of the base of the column above it, that is, one and one-third diameter. The projection of the capping, which is the same for all three orders is obtained by drawing a line at an angle of 30 degrees with the vertical from the top of the die.

The width of the plinth corresponds to the projection of the capping, and is determined by dropping perpendiculars from the top fillet.

The height of the mouldings between the die and plinth is determined by a line drawn from the bottom of the die at an angle of 45 degrees to intersect the vertical face of the plinth. The angle is the same for all the orders.

Doric Pedestal

In the Doric order the height of the capping is one-third diameter. The face of the die is square, and this determines the height of the plinth.



No. 169. Detail of Pedestals.

The capping mouldings consist of a fillet, facia, ovolo, fillet and cavetto. The facia is carried to the underside of the fillet in a curve, and its height is half the total height of the capping. The facia is supported by the ovolo, and a fillet and cavetto complete the capping.

The height of the course of mouldings at the top of the plinth should be divided into three, then the upper third will contain a cavetto moulding and fillet, and the remaining two-thirds an ogee and final fillet.

Ionic Pedestal

In the Ionic pedestal the plinth with its mouldings should occupy one-third the height and the capping one-fifth the remainder.

The mouldings are similar to those of the Doric pedestal, but a little more elaborate. In the capping a reversa is used under the top fillet and a small torus or bead is placed between the ovolo and the cavetto. In the mouldings of the plinth a similar bead is introduced above the ogee moulding.

Corinthian Pedestal

The same general divisions as the Ionic will give the proportions of the Corinthian pedestal, the difference being that of the scale and the detail of the mouldings.

The capping may be divided into two. The top half consists of a fillet, reversa and facia, and the lower half a supporting cyma recta, a bead and a cavetto curve. The plinth mouldings are the same as those of the Ionic pedestal with the addition of a torus beneath the ogee. The height of this torus is one-fourth the total height and is about equal to that of the cavetto and bead together.

When the pedestal is employed the arch becomes proportionately larger. In the Doric order the columns are then spaced seven and a half diameters apart ; in the Ionic seven and three quarters, and in the Corinthian eight diameters centre to centre.

The archivolt, the radius of which is determined by the above spacing, is supported as before by an impost and pilaster. The base of the pilaster consists of a

slightly projecting block equal in height to the plinth block of the pedestal.

The height of the arch varies slightly, inasmuch as the inner curve may be about a diameter from the architrave, but in the Corinthian order should not fall below the level of the necking moulding of the capital.

The Baluster

As already stated, the pedestal may be used as a part of a balustrading associated with balusters, and must conform to the proportions necessitated by the conditions. The usual height for balustradings, whether to steps, balconies, or before windows, is three feet two inches, though in special cases it may be slightly more.

The baluster is a species of small column. Its usual form is bulbous or vase-shaped, and it is furnished with a capital and base. A series of balusters is technically known as a balustrade.

The balusters are raised on a plinth, which corresponds to the plinth of the pedestal, and surmounted by a rail of horizontal mouldings, which correspond to the capping of the pedestal ; hence the baluster is of the same height as the die.

The height of the baluster should be divided into five, then one-fifth will be the height of the base, and the capital exclusive of the necking will be another fifth. The extreme diameter of the bulbous shaft is one-third the total height of the baluster, and the diameter of the necking and the top of the shaft is about one-sixth. The capital has a square abacus slightly less in width than the plinth of the base. Below the abacus is

No. 170. Detail of Balusters.

an ovolo and fillet, which are circular on plan. The necking is separated from the shaft by a small torus and fillet. The base has for its lowest member a square plinth, which occupies rather less than half the height and is equal in width to the extreme diameter of the bulbous shaft. Above the plinth is a scotia and a necking moulding, which are circular on plan.

Spacing of Balusters

The balusters should be spaced with not more than half their diameters or less than a third between their bases, except when employed on the rake of steps, when they may be slightly closer.

Balustrading

In a balustrading an unequal number of balusters should always be used, and not less than five in one group exclusive of the half balusters which are attached to the flanking or dividing dies. Seven and nine form very satisfactory groups, but if more than nine are necessary for the space to be filled, intermediate dies must be interposed, and these may vary from two-thirds to three-quarters the width of the principal dies.

In some cases, when a large number of balusters are to be grouped, the dies are flanked by half dies, which are less in projection than the dies themselves.

Balustrades are sometimes used above the cornice of a building, and their height should not be more than four-fifths or less than two-thirds the height of the entablature. This height would be exclusive of the plinth on which the balusters are raised. The height of the plinth is determined by the height of the building, and the projection of the cornice, as its purpose is

to raise the balusters so that they may be seen from the ordinary point of view. The principal dies may be placed over columns or pilasters and should be equal in width to the upper diameters of these, though flanking half dies may be used in addition to avoid an appearance of thinness. The plinth and capping mouldings always follow the plan of the principal dies, and are carried in unbroken lines across each interval.

When the height of the balustrade does not conform to the orthodox proportions the method of determining the relative proportions is as follows :—The height is divided into seven parts ; of these one part gives the height of the capping, four the baluster and two the plinth.

The mouldings in character and detail are the same as those of the pedestal, and should be in harmony with the order used.

When balustrading forms part of a stair, the height on landings should be three feet two inches. On the rake two feet ten inches from the step at a line vertical with the face of the riser. The plinth is invariably used as a string enclosing the ends of the steps and following the rake or angle in a straight line, and carried to the levels by means of curving ramps.

In interior work the bulbous shafts of balusters are often decorated with carved detail, and the mouldings also may be enriched.

Use of Columns

Columns were originally used in the porticos and courts of temples and other buildings, and sometimes to form supports for vaulted roofs. Wherever employed

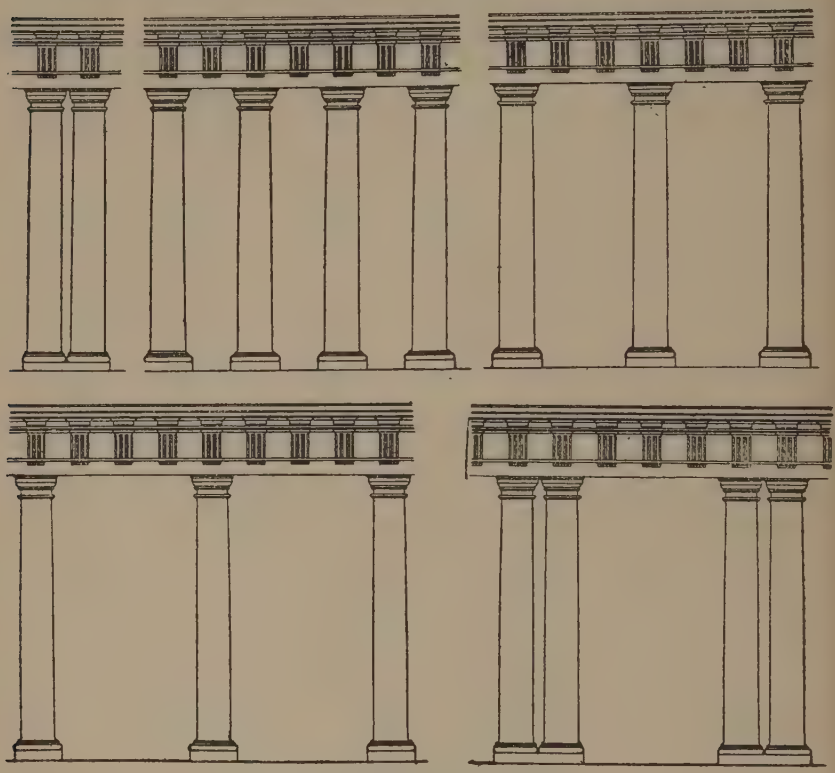
their function was directly structural, but this was not the case at the time of the Renaissance. The requirements demanded by widely different social conditions led to their being used more as decorative than structural features.

The use of engaged columns and pilasters in a façade can be justified to some extent. Although such columns and pilasters may not be absolutely essential for support, yet they act as buttresses and add to the strength of the structure with a certain economy of material. Also they are æsthetically satisfactory in their effect of light and shade.

Disposition and Spacing in Colonnades

The disposition of columns either in a façade or a colonnade is controlled by proportions which have been found to be desirable or are necessitated by special features of the order itself. The latter is the case with the Doric order, the spacing being determined by the trigylphs and metopes. If the triglyphs are placed centrally over the columns or pilasters the spacing of these apart will be two and a half diameters centre to centre, three and three-quarters, or five diameters, with two, three or four metopes respectively between them in the frieze. With the wider spacing of five diameters it is usual to employ coupled columns to add to the appearance of strength. As the triglyphs are one and a quarter diameters apart centre to centre, the coupled columns are brought very close together, entailing a slight modification of the bases. Since the ordinary projection of the plinth of a sixth of a diameter beyond the line of the shaft is not possible

between the two columns, the plinth-blocks are united, and the torus moulding made slightly less in projection.



No. 171. Spacing of Columns.

The capitals being less in width are not affected, a small interval is left between the crowning reversa mouldings.

In the Ionic order the columns are spaced three and a quarter, three and three-quarters and four and a quarter diameters centre to centre. The coupled columns used with the wide spacing are one and a half

diameters centre to centre or half a diameter apart at the lower extremity of the shafts.

The Corinthian spacing is slightly wider, three and a half diameters, four diameters, or with coupled columns four and a half diameters centre to centre. The coupled columns are placed as in the Ionic order one and a half diameters centre to centre.

It is desirable that attention should be given to the vertical alignment of the principal features. Dentils and modillions and indeed all strongly marked features should centre with the columns, and be equally spaced in the intervals.

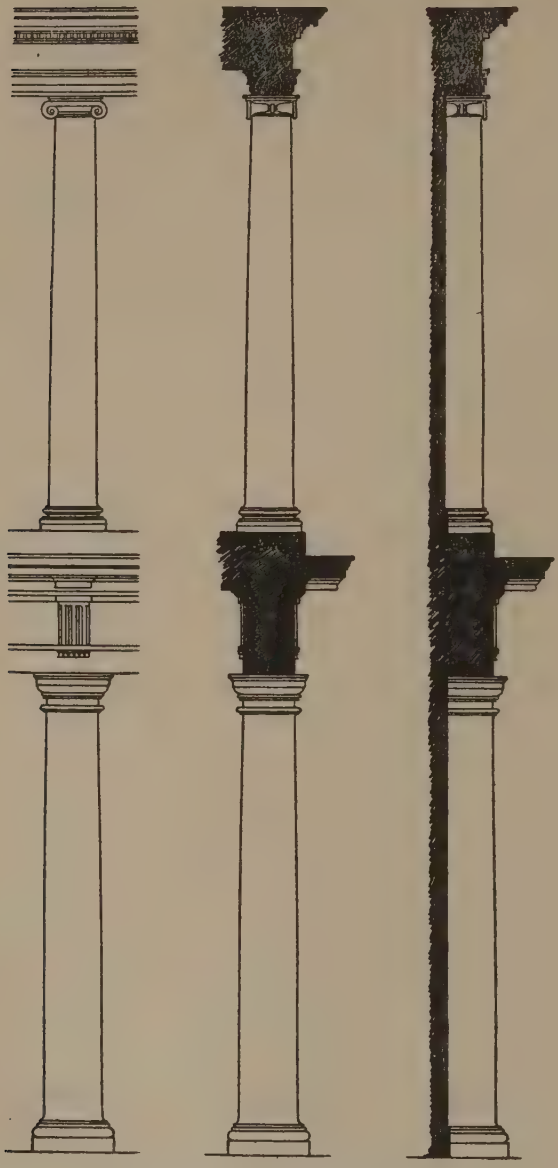
Orders Above Orders

Occasionally in façades orders are used above one another. The Colosseum is an antique Roman example of this, and it was a treatment often adopted by the architects of the early Renaissance. It is desirable that the simpler order should be the lower one. Ionic may be used over Doric, or Corinthian over Ionic.

It is obvious that the central axes of the columns or pilasters of each order used should be in vertical alignment, not only when seen from the front, but in the case of detached columns, from the side view also.

When engaged columns or pilasters are employed, the upper tier may be set back slightly from the face of the lower order which supports it ; an example of this is to be found in the Theatre of Marcellus at Rome.

The proportions of the upper order are obtained by making the lower diameter of the upper tier of columns or pilasters equal to the upper diameter of those



No. 172. Order above Order.

of the supporting order, and an effect of continuous tapering is produced.

It is usual to place above the entablature of the lower order a plinth on which the bases of the upper columns rest. The height of the plinth is regulated by the point of view, as its purpose is to display the bases of the imposed order above the projecting cornice. Generally this height will be about half a diameter.

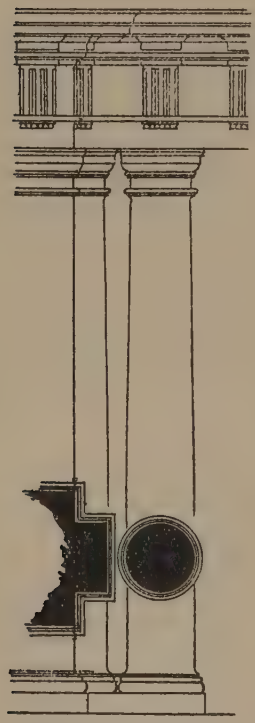
In many historical examples the upper columns are placed on pedestals, but this treatment, although useful when a balcony is desired, is not to be recommended as the extra width and projection which the use of the pedestal entails, gives an appearance of undue weight to be borne by the supporting columns. If balconies are necessary they may terminate with their own pedestals, which can be kept clear of the columns and should not exceed them in projection.

The Pilaster

It may be as well to deal here with the treatment of pilasters, which may be defined as columns in bas-relief. Their projection may vary from one-half to about one-sixth their face width, though in antique examples it is sometimes much less than this. In the pilasters of the Pantheon at Rome it is one-tenth.

The projection is, however, partly determined by the order with which the pilaster is used, as an appearance of mutilation might easily be produced in the capitals of the Ionic and Corinthian orders. The Doric capital, being composed of moulded profiles, is not in any way affected by the amount of projection. Nor does the Ionic capital suffer when the volutes are in one

plane except when used on an angle. But if the later Renaissance type with the volutes arranged at angles of 45 degrees is employed, the projection of the pilaster must not be less than half its upper diameter, so that the volute on the return face may be complete.



No. 173. Doric Order. Treatment of coupled Column and Pilaster.

The Corinthian capital would be affected in the same way, and should also be not less than half a diameter in projection in order to obtain a satisfactory result.

The pilaster is usually tapered, and when associated with columns and supporting the same entablature it is essential to preserve universal alignment in the upper extremities and the architrave, but when used by itself the pilaster is often not tapered. At the angle of buildings, where both faces are displayed, it is an invariable rule that pilasters should be straight.

The details of capitals and bases are the same as those of the columns. When fluting is employed an odd number of channels should be used, usually seven on the front face.

Arcades

Arcades, as already suggested, may be composed of a series of arches, supported on pilasters which flank the columns. The backs of the piers thus formed may

be treated with pilasters, which can be repeated on the opposite wall, with the architrave frieze and cornice above.

No. 174. Doric Arcading.

There are several alternative treatments for the ceilings of arcades. They may be flat and panelled by beams carried across in a line with the pilasters and with a cornice moulding carried round the sides of the beams.

The interior can also be vaulted by means of archivolts springing from the line of the imposts. The archivolts should be supported by pilasters at the back of the piers and on the opposite wall, and a cornice may be carried round between the vaults. Cross vaulting also may be employed, and in this case the entablature is no longer necessary.

The proportions already given determine the width of piers when an order is used, but when an order is not used some further general rules for proportions are necessary.

The height of the opening formed by arches, which may spring from piers—with or without an impost—should be about twice the width. The supporting piers should not be less than a third or more than two-thirds

the width of the aperture. In any form of arcading, piers must be employed at the angles, and these should

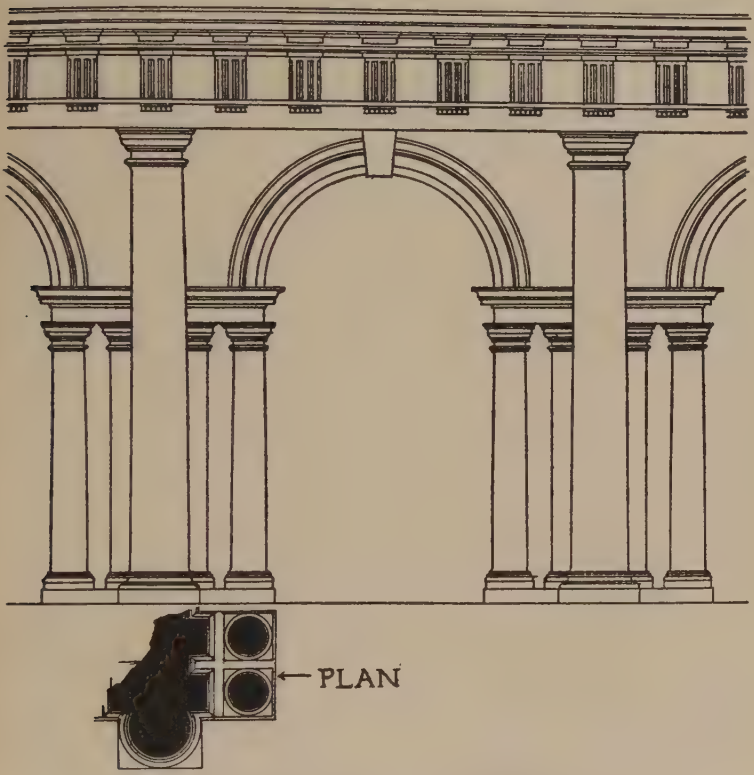
No. 175. Doric Arch, with pedestal.

be wider than the intermediate ones by a half, a third, or a fourth.

Subsidiary Order

A secondary or subsidiary order is sometimes used in an arcading. The height of the arch should then be twice its width, and the height of the small order two-thirds the height of the column of the principal order. This height of two-thirds the column should be

sub-divided into nine parts, of which eight will give the height of the column and the remaining one that of the,

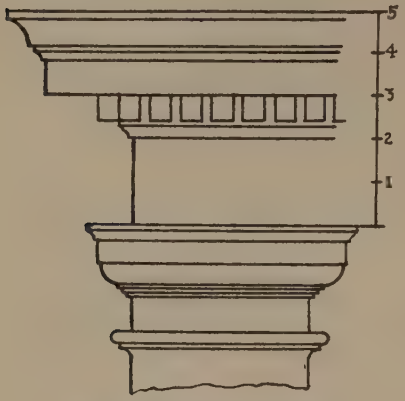


No. 176. Employment of the Subsidiary Order.

entablature. The entablature consists of architrave and cornice, the frieze being omitted, and a division into five will give the relative proportions. Two-fifths may be taken as the height of the architrave and three that of the cornice.

Pilasters are used with the columns of the subsidiary order with a space of half a diameter between them and the columns.

The archivolt should be equal in width to the upper diameter of the column, and the width of the lower edge of the keystone should also be of the same dimension.



No. 177. Subsidiary Order. Division of Entablature.

The subsidiary order may be the same as the principal order, but more often the Ionic is used in conjunction with the Doric, or the Corinthian with the Ionic.

As regards the treatment of the bases, the horizontal alignment must be maintained. It is obvious that if the height of the base of the large column is adopted for the subsidiary one it will be very much out of proportion. This can be obviated by carrying through the plinth of the larger column to form a step on which the base of the smaller rests, and always the top line of the smaller bases should agree with that of the larger.

Superimposed Orders

When arcades are used one above the other, the lower order is usually mounted on a plinth, and the upper furnished with a pedestal. The height of the pedestal is determined by the balustrading or balcony, the height of which is governed by its use.

If the Doric is taken as the lower order the centres of the columns are six and a quarter diameters apart, which gives a frieze of five metopes with intervening

triglyphs. The plinth on which the order stands is three-quarters of a diameter high. The pilaster supporting the archivolt projects half a diameter, and the height of the arch is determined by the impost, which is two-thirds the height of the column inclusive of the plinth. The base of the pilaster may be moulded, but the top line should coincide with the top of the plinth.

Above the Doric an Ionic order might be placed, and the die and plinth of the superimposed order should be kept as narrow as possible so as to reduce the impression of weight. The pilasters carrying the arch rest on the plinth of the pedestal, and the plinth mouldings are carried round the bases. The plinth and rail of the balustrading should not project but be kept between the pilasters.

The centres of the arches of both tiers are in a line with the tops of the imposts, and the outer edges of the archivolts may nearly reach the lower lines of the architraves.

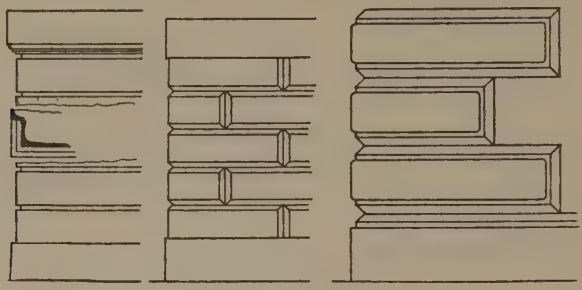
When the Ionic is used as the lower order it may be surmounted by the Corinthian. The distance between the centres of the lower columns should then be six and a half diameters. The other proportions can be obtained in the same way as the preceding.

If a subsidiary order is employed the columns of the principal order are placed further apart. In the case of the Doric the distance is seven and a half diameters, and the other orders are increased in proportion.

Rustication

The joints of the material used must necessarily be considered, and when plain piers or plain wall surfaces

occur the joints may readily be accentuated and so turned to decorative account. The edges of the stones forming the separate courses may be chamfered or



TYPES OF RUSTICATION

No. 178.

moulded. The joints may also be worked so as to form a square recess.

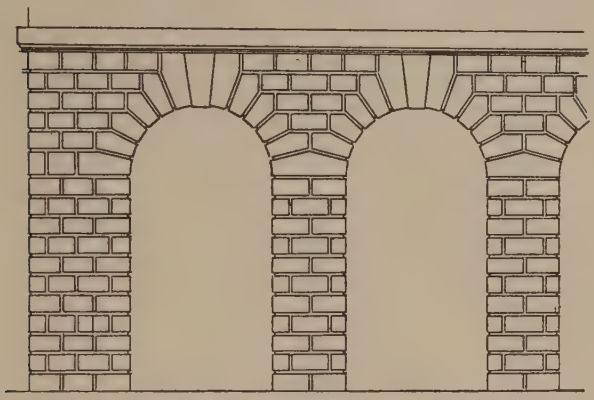
The surface of the stone is sometimes roughly tooled or frosted, or worked in an arbitrary pattern, which is termed " vermiculated." This treatment probably gave rise to the word rustication.

When rusticated work is used with an order the height of each course of stone should not be less than half a diameter, and when square recessed joints are used they can be one-eighth or one-tenth the height of the course.

Occasionally only the horizontal courses are thus marked, and this has been objected to as producing a boarded appearance, though undoubtedly the horizontal effect is at times agreeably in contrast to the vertical features. A much more usual treatment in Renaissance examples was to emphasise the vertical joints also.

The length of each stone should be from one and a half to three times the height.

Rustication may be used in the formation of the arch,



No. 179. Rusticated Arcade.

which frequently has at its springing line a slightly projecting course, in which the vertical joints are not emphasised.

Rustication is also used in columns, either square on plan or conforming to the plan of the column.

Its most legitimate employment is in basements and to emphasise the angles of buildings.

Basement

A basement is really a continuous pedestal on which an order rests. It necessarily varies in height according to conditions, thus if its purpose is merely to raise the ground floor it may be no more than three to six feet high, but if it is required to form a storey, it should not exceed the height of the order employed or be less than one half.

The joints of the work in basements are generally

accentuated by some form of rustication, and the heights of the horizontal courses should not be less than half a diameter of the column of the order above.

When a high basement is used it is sometimes crowned with a cornice, or more frequently with a slightly projecting facia technically known as a plat-band. In either case, the height should be equal to that of the courses exclusive of moulded edges or chamfers. Also a plinth is placed at the base of the same height as the plat-band or a little more. When a cornice is used the plinth should be moulded and may then exceed the height of the courses.

Attic

An attic storey is sometimes used instead of a second order, and this may vary from one-third to one-tenth the height of the order beneath it.

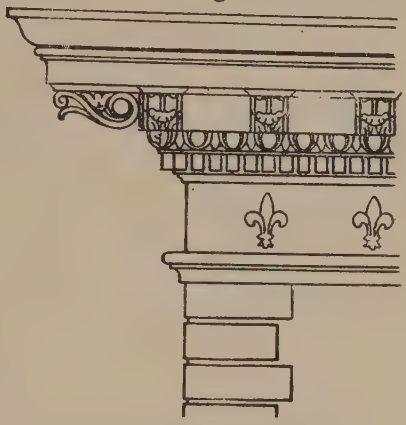
The attic may be quite plain, but it often has breakings or projections on its face corresponding to the vertical features of the supporting order.

It usually forms a storey in a building, and then is of necessity pierced with windows.

In architectural design the character and requirements of the building must, of course, be the first consideration, but the basement may constitute the ground floor, the height occupied by the order may contain two stories and the attic may be an upper floor.

When an order is not employed the divisions and proportions already stated may still be applied, the heights and widths should govern each other as would be the case if the façade were divided into bays by columns or pilasters.

In the absence of the order a cornice is substituted for the entablature, and this, according to different authorities, may be from one-twelfth to one-sixteenth the total height from the ground, but one-fourteenth or one-fifteenth will be found a safe mean.



No. 180. Cornice where order is not employed.

The Pediment

The pediment in its original and orthodox employment was a gable conforming to the pitch of the roof. It is framed with mouldings, and the enclosed space is technically known as the tympanum.

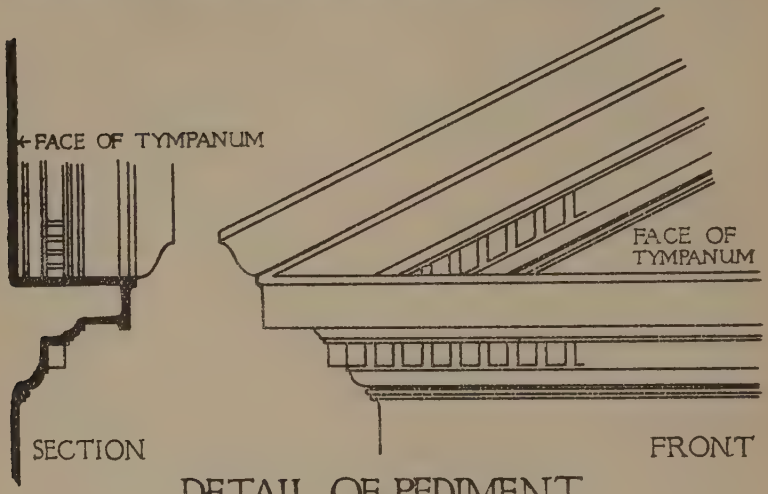
The use made of the pediment by the architects of the Renaissance was not always justified in the strictest sense. It was often used to vary the sky line, and to form door and window heads. Although the latter use can be to some extent justified in exterior work, a similar employment in interiors may be open to question

The sloping lines of the pediment are not always straight, sometimes they are in the form of a curve composed of a segment of a circle. The triangular and curved forms are often used alternately in a row of windows with good effect.

The lines of the pediment mouldings are not always continuous ; sometimes the sloping or the horizontal lines or both are broken. This is a treatment that

cannot readily be justified as the pediment is a feature that implies shelter.

Sometimes ogee curves take the place of the straight sloping lines, and these terminate towards the centre, with scroll ends, leaving an interval between them.



DETAIL OF PEDIMENT

No. 181.

The mouldings of the pediment are the same as those of the cornice, the crowning moulding of which is carried round and omitted in the horizontal course forming the base of the pediment.

Beneath the cyma the mouldings of the cornice are repeated in their proper order, detailing at the lower angles on the top of the horizontal cornice, which terminates with the fillet above the facia.

When dentils and modillions are introduced in the cornice they are invariably repeated in the mouldings of the pediment.

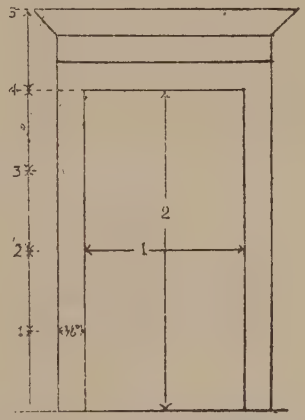
The tympanum or face of the pediment should be

in vertical alignment with the face of the frieze. When this space is small it is best left plain, but on a large scale the tympanum affords a very suitable position in which to place sculpture.

The height of the pediment varies according to the width. Thus where the base is short, as in door and window heads, it will be comparatively higher than when used in a façade. The height may vary from a fourth to a fifth of the width of the base.

Doors

Obviously door openings should be of sufficient size to admit the free passage of a tall person. The minimum height for ordinary doors in domestic buildings should be six feet nine inches, and the width two feet nine inches. For entrance doors under similar conditions the width may be three feet six, but when it is more than this the door should be in two halves.

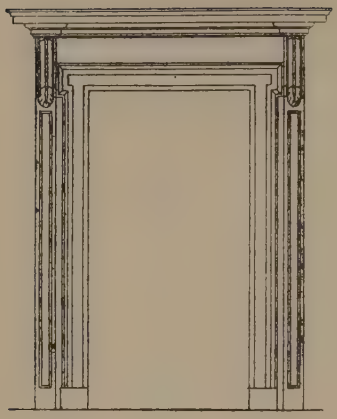


No. 182. General proportions of doors and windows.

The size of doors should be proportioned to the building, and should be designed to meet probable requirements, thus in public buildings door openings should not be less than six feet wide.

Generally a satisfactory proportion may be obtained by making the height twice the width, and the framing architrave one-sixth the width of the opening.

If a frieze and cornice are carried over the door the height inclusive of architrave should be half the width of the opening.



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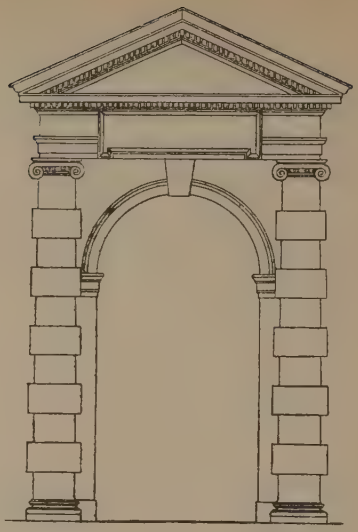

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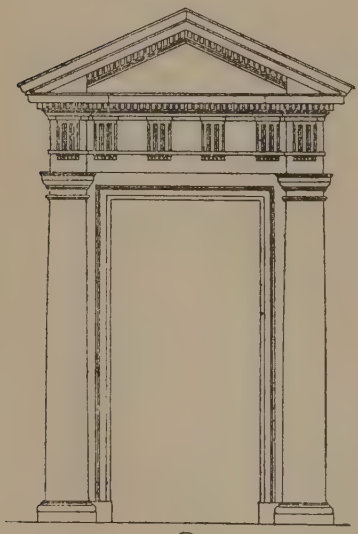

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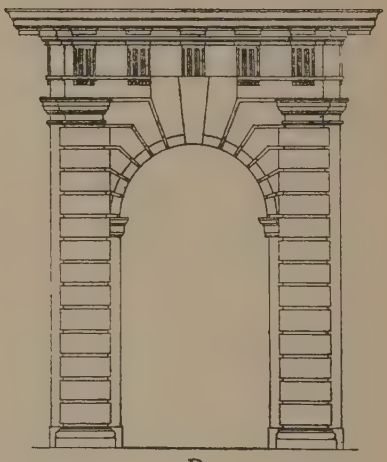


D

No. 183. Door Treatment.

A. Architrave with simple pilasters and consoles.

B. Ionic order rusticated, with pediment.

C. Doric order with pediment.

D. Doric order rusticated.

In addition to the framing architrave narrow pilasters bearing consoles supporting the cornice are sometimes used. The total width of architrave and pilaster may be about one-third the width, and the entire entablature one-third the height of the opening.

The mouldings and decorations used should be in harmony with the general structure and in character with the order if one is used.

Occasionally columns or pilasters are introduced, with or without the arch, but the same general proportions apply, the aperture being two squares.

When doors are placed under arches the top line of the entablature should agree with that of the impost.

When a pediment is used, the height should be one-fourth the width of the base.

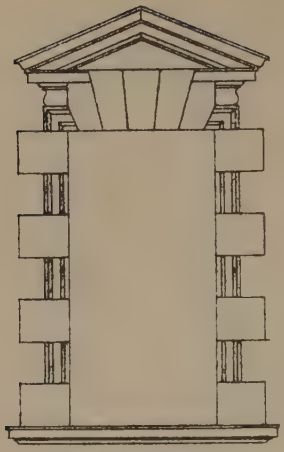
Windows

The general proportions and treatments of doors apply also to windows, and if doors and windows are placed in the same line the heads of the openings should be in horizontal alignment. If this is not possible the top of the cornice may agree with the inner line of the window openings.

Windows terminate below in a sill, or sometimes in a balcony, and as a general rule those on the same level should be similar in treatment, but an alternation such as already suggested with curved and straight lined pediments is quite satisfactory.

The frieze and consoles of doors and windows are often decorated with relief ornament.

When a façade is divided by columns or pilasters the bays are pierced with windows ranged above each



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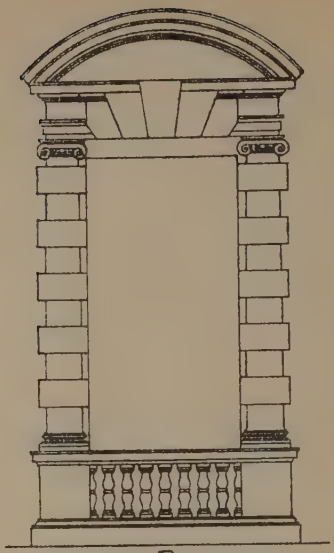

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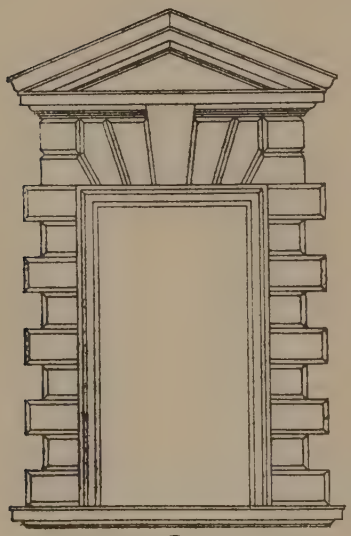

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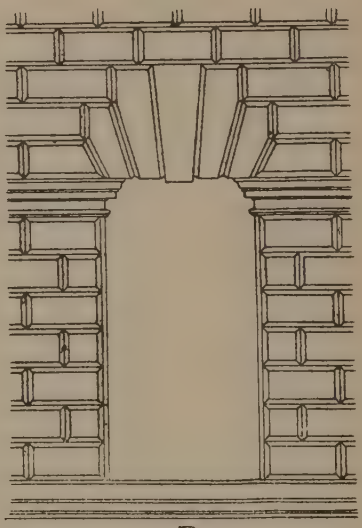


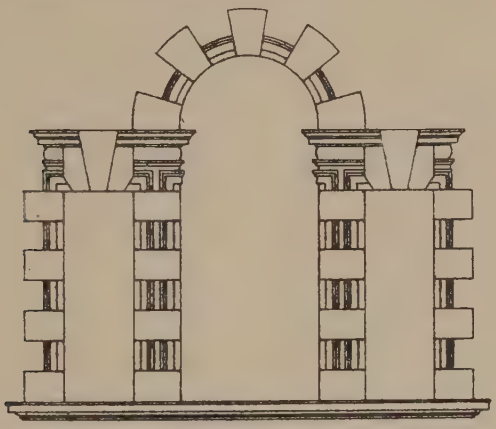
D

No. 184. Windows.

A. Rusticated Architrave. B. Rusticated Ionic Columns.
C. & D. Rustication with Horizontal and Vertical Joints Defined.

other, the heights varying with the different floors. Those on the first storey are usually of full height, and those above less in height and simpler in treatment. The width of apertures should be the same for the different levels, except in the case of basements, where they may be narrower.

When an order is not employed in a façade variety may be obtained by grouping the windows ; or three-light windows may be introduced. The centre light, which may be treated with an arched head, should be twice the width of the side lights.



No. 185. Three-Light Window.

The number of windows in a façade should be odd, so that there may be a centre one, and the end windows of a range should be kept well clear of the angles of the building.

CHAPTER V

DIVISION OF SURFACE

IN interior decoration surfaces such as walls and ceilings may be divided into panels of various shapes by a system of framing. The form of the framing may be rectangular, square, polygonal, circular or oval; and the panel is generally recessed from the dividing stiles and rails or ribs, while the latter are frequently supplemented by mouldings.

Wall Treatment

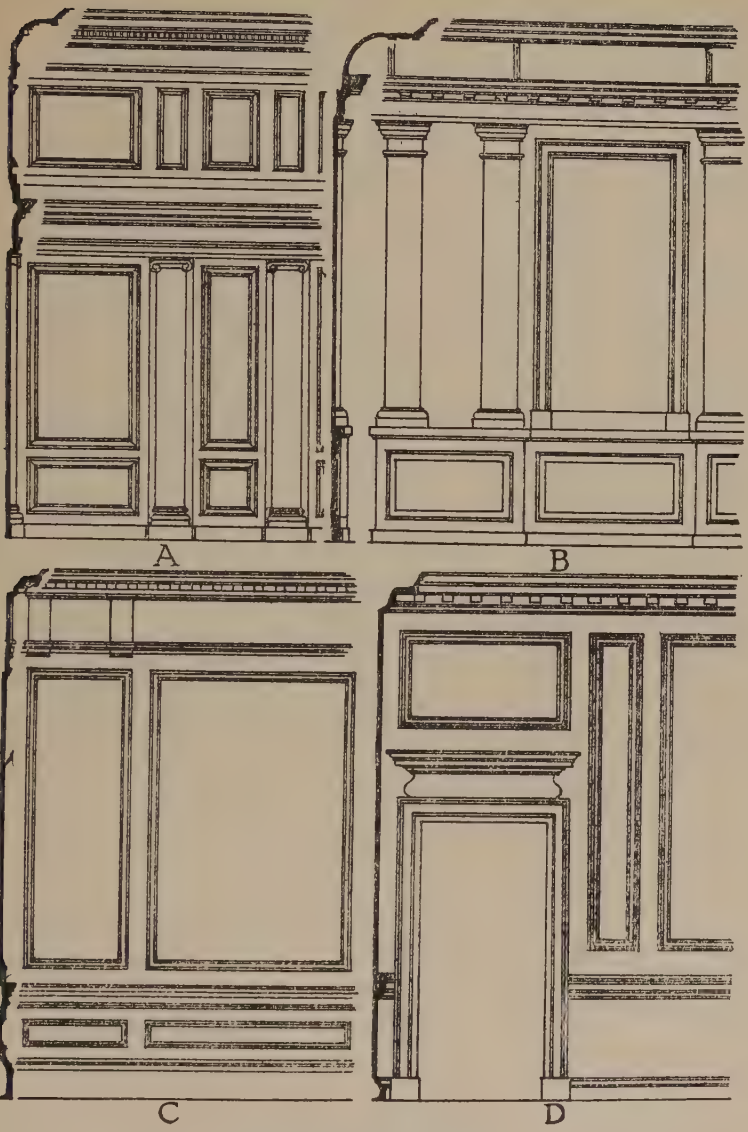
In dealing with walls the division can be planned in accordance with architectural proportions, but the orthodox features are not necessarily employed.

In some phases of traditional decoration much use has been made of pilasters—the spacing and distribution of which, while conforming to the conditions of the interior, are similar to the usual employment of pilasters in exterior architecture, with the difference that the spaces between them are occupied by panels or other features.

Except in apartments of unusual height, pilasters should not be mounted on a pedestal; though a pedestal-like feature is often introduced in the form of a Dado or surbase.

In such a scheme the entablature also should be used so that the cornice forms a bed moulding for the ceiling.

Coupled pilasters may also be employed, and in



No. 186. Wall Division.
A. & B. Pilaster Treatment.
C. & D. Alternation of wide and narrow panels.

some well-known instances are placed wider apart than is ordinarily the case, and the space between is then occupied by a narrow panel.

No. 187. Detail of Ceiling. Library of S. Lorenzo, Florence. M. Angelo.

In smaller apartments the pilaster may be dispensed with, but the division of the wall surface can conform to the same general plan both vertically and horizontally. In the absence of pilasters the spaces may be divided into panels alternately narrow and wide.

Ceilings

When the ceiling is divided the dividing ribs or beams should bear some relation to the general

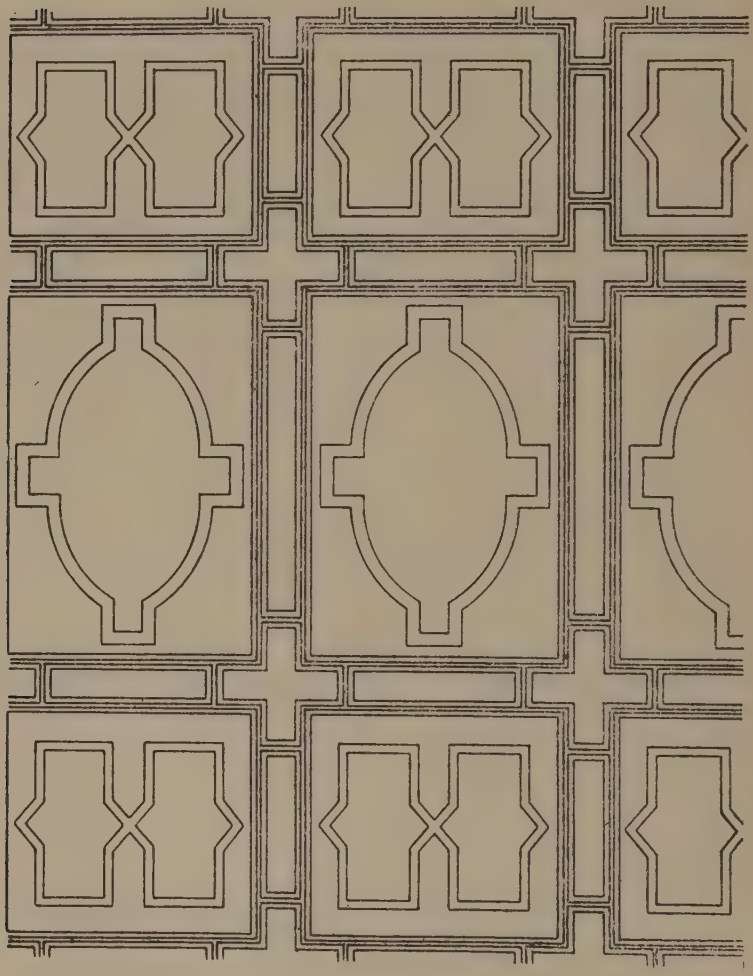
construction, though in the past this rule has not always been strictly adhered to. For example, the ceiling may very desirably be divided into equal squares or rec-

No. 188. Detail of Inlaid Floor. Library of S. Lorenzo, Florence. Repeating general pattern of ceiling.

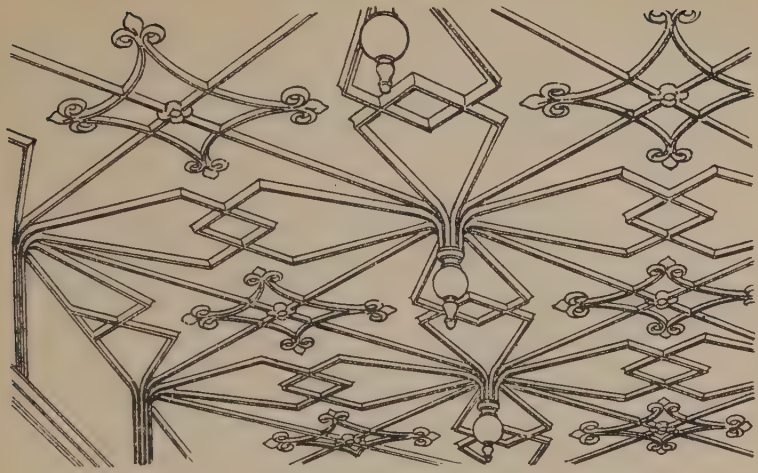
tangles by means of wooden or plaster mouldings, leaving the enclosed spaces plain or decorated. When mouldings are used these may be enriched, but contrast should be maintained between the framing ribs and the panels.

The Late Tudor decorated ceiling often had narrow moulded ribs geometrically arranged with pateræ in

between and fleur-de-lys details on the outer angles where the ribs met.



No. 189. Ceiling of Library of S. Lorenzo, Florence.
Plan of general arrangement.



No. 190. Late Tudor Ceiling. Littlecotes Hall, Wilts.

Jacobean

In the later Jacobean style the rib was replaced by floral bands projecting comparatively slightly and enclosed by narrow borders. These bands were disposed in various ways—sometimes intersecting at right angles and enclosing rectangular or square panels, sometimes forming geometric curves occasionally interrupted by straight lines.

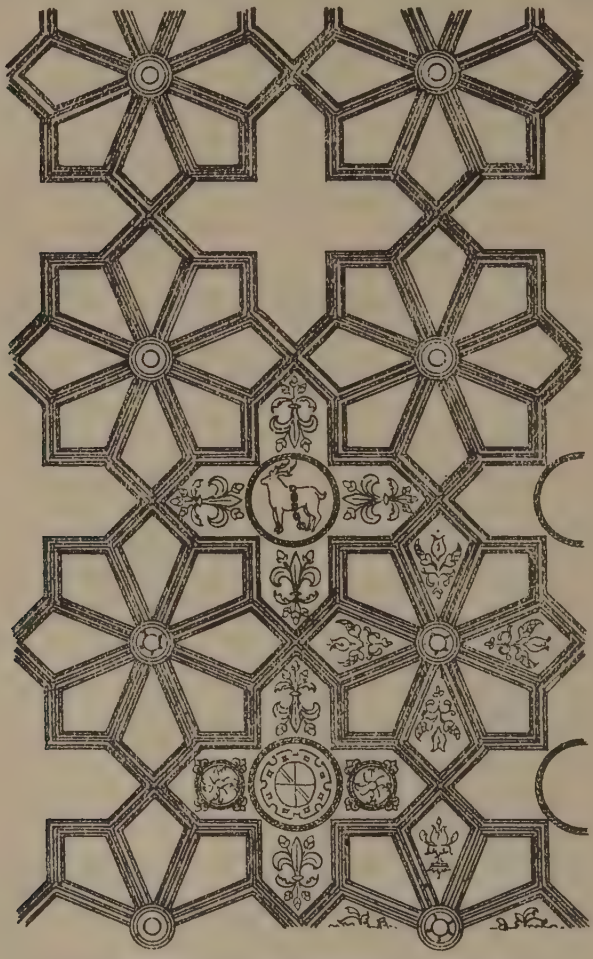
If any of these methods of breaking up the surface be employed, it is obvious that the general proportions must be taken into account.

Carolean and Georgian

In the Carolean and Georgian periods it was customary to decorate the ceiling with a heavily modelled band of foliated detail, circular or oval in form—the whole in harmony with the plan of the room. Sometimes the angles were occupied by other detail, but the centre was invariably left plain.

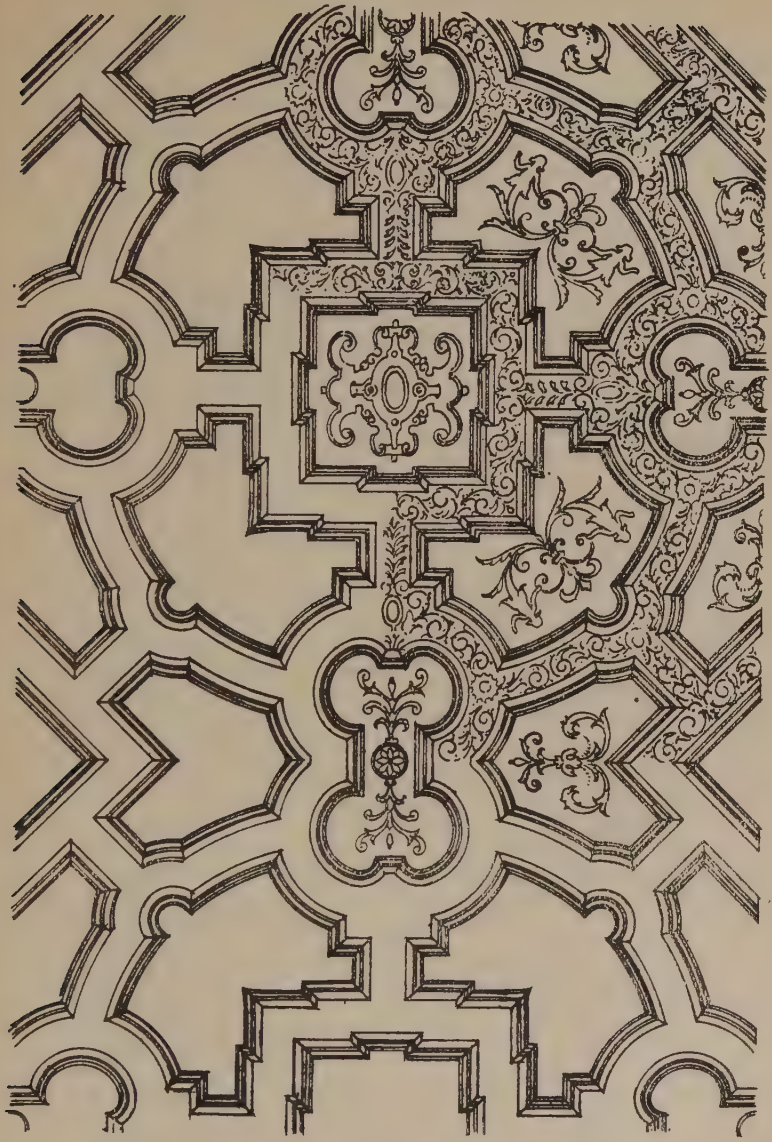
Adam Ceilings

The ceilings of the Adam period were similarly treated. The oval or circular band would sometimes



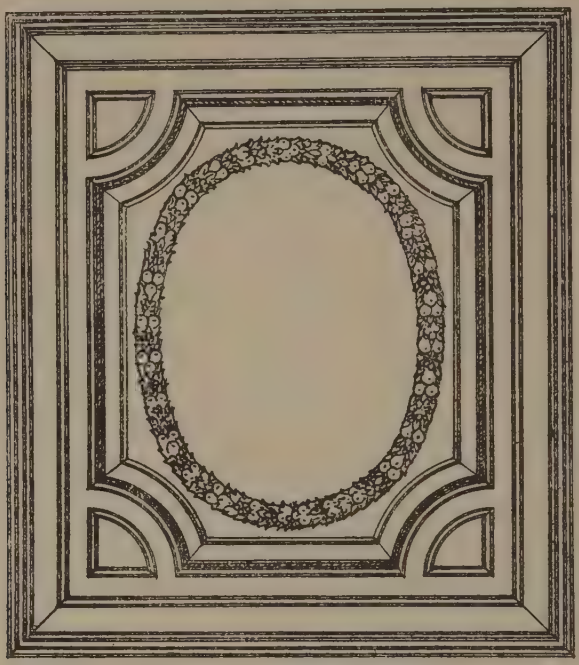
No. 191. Jacobean Ceiling. Sizergh Hall, Westmorland.

consist of a series of festoons—an arrangement which, though graceful enough in effect, cannot be defended



No. 192. Jacobean Ceiling. Reindeer Inn, Banbury.

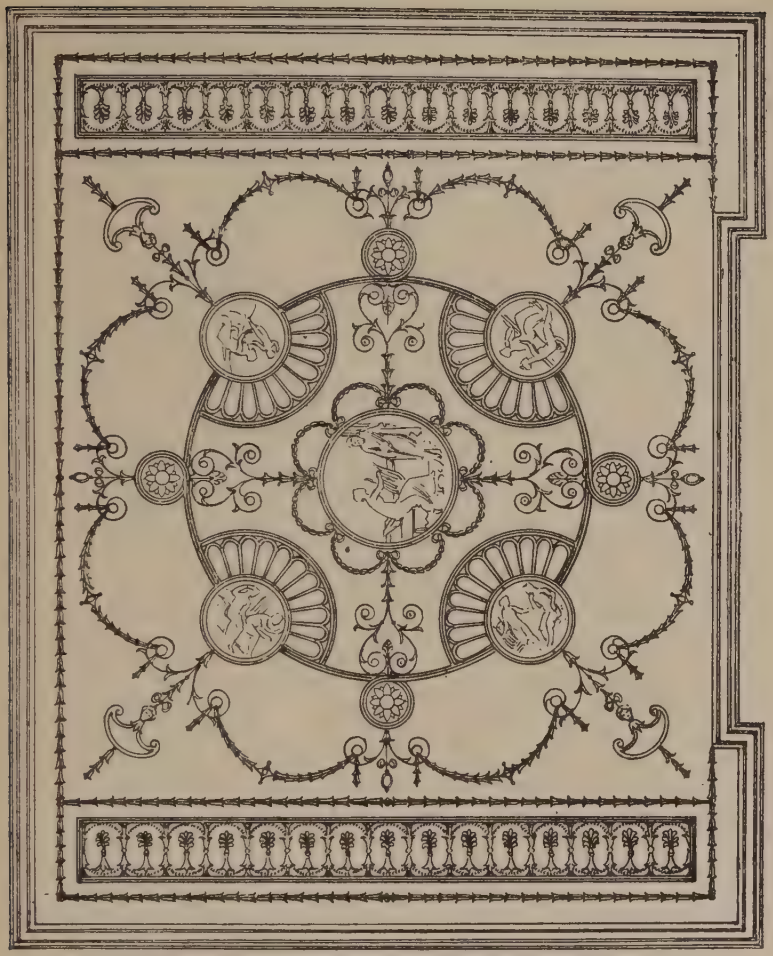
as consistent. The angles of the Adam ceiling were generally decorated with the characteristic fan detail.



No. 193. Carolean Ceiling.

Vaults and Domes

In vaulted ceilings or domes the division may be effected by horizontal or vertical bands, in which case the spaces between diminish in size towards the centre. If the division of the dome is vertical, or more properly speaking, by radial lines, it is desirable to divide further the spaces thus formed by introducing intermediate shapes, such as circles, unless the diameter be relatively small.



No. 194. Adam Ceiling.

The Cove

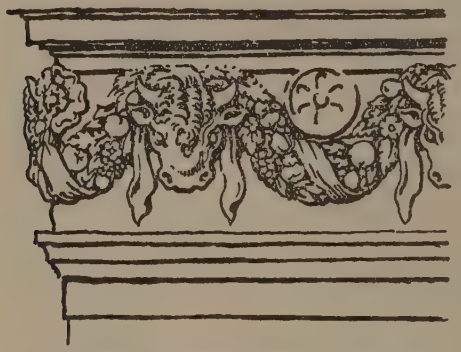
In some cases the walls meet the ceiling in an arch, which is technically known as a Cove. The arch generally springs from the top of the cornice and forms a vaulted frieze, which may or may not be decorated.

When the ceiling is divided by means of heavy beams there should be obvious support for these, such as brackets or consoles, which are themselves to be supported by pilasters. The brackets in this case make a break in the frieze or cove.

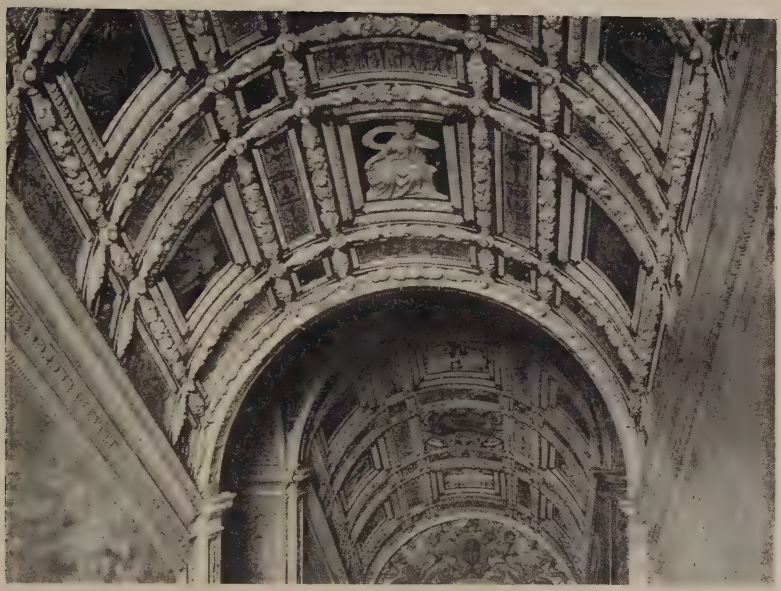
It may be objected that architectural features serve no purpose in interior decoration, but on the other hand, in extenuation of their use it may be urged that, though considerations of actual weight and structure are not involved, yet the appearance of support has to be maintained, and it is essential that the scheme as a whole should realise the effect of stability.

The Frieze

In considering the decoration of the various parts, the two principal questions to be asked are—what is the purpose? and, what is the attitude? The purpose of the Frieze may be said to be to bind, and the attitude of the Frieze is certainly a horizontal one—therefore the usual continuous treatment is justified. This is not the only way in which the Frieze can be treated, however, for the continuous horizontal treatment may be varied by vertical effects such as occur in the Doric order. The employment of Festoons with intermediate

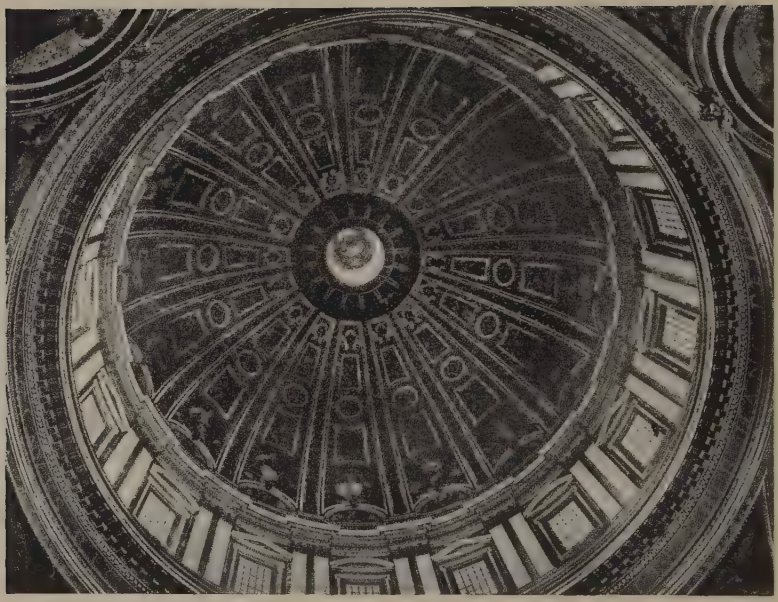


No. 198. Festoon Frieze. Continuous treatment with vertical contrast. Temple of Vesta, Tivoli.



[Photo] No. 195. Vault Treatment. Ducal Palace, Venice, Sansovino. [Alinari

[Photo] No. 196. Dome Treatment. Vertical and horizontal division, resulting in panels. Villa Madama, Rome. [Alinari



Photo] No. 197. Dome, St. Peter's, Rome. Example of radial division. [Alinari

pendants is really a continuous horizontal treatment in which the vertical direction is emphasised by way of contrast. The same principle is involved in the decoration of mouldings. Vertical features should be in alignment with adjacent and dominant details.

No. 199. Frieze. Temple of Antoninus and Faustina, Rome. Horizontal direction suggested by Gryffons, with vertical contrast by Candelabra.

All kinds of elements can be employed in Frieze decoration, and as much interest and liveliness imparted as is compatible with the necessary repetition.

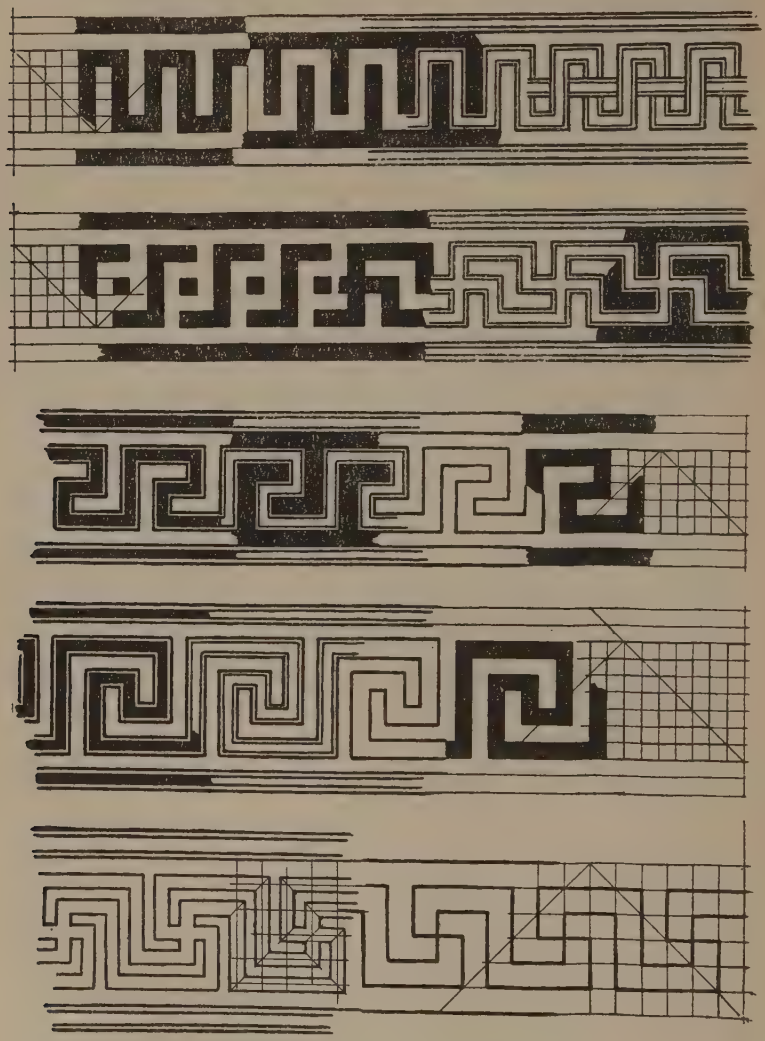
Borders

Borders, with or without mouldings, may be considered as frames to the spaces they separate or enclose; in the latter case they are invariably uniform in width (except when used in Typography and illuminations, where some license is permissible).

As borders are structural in suggestion, the elements employed should be simple and without that interest which is desirable in other positions.

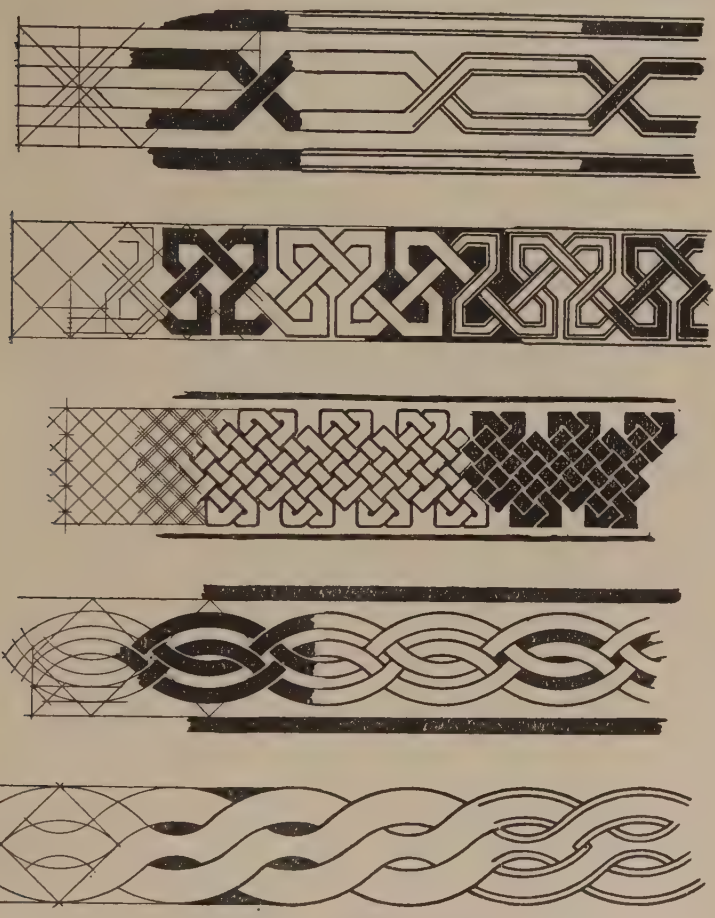
The detail to be used is largely determined by scale and position. When on a small scale, borders may be mainly composed of a series of lines spaced so as to suggest the various features of a moulded band, in which case it is essential that the same width be maintained throughout the length, while the lines are returned at the corners at mitral angles. This treatment can be elaborated by the introduction of other lines

between those most widely spaced at right angles with the direction, and these can again be broken at intervals by rosettes or other simple forms.



No. 200. Key-Pattern Borders.

The well-known key-border is a continuous narrow band or line which traces out a labyrinth pattern by bending inwards at right angles and then returning to



No. 201. Interlacing Borders.

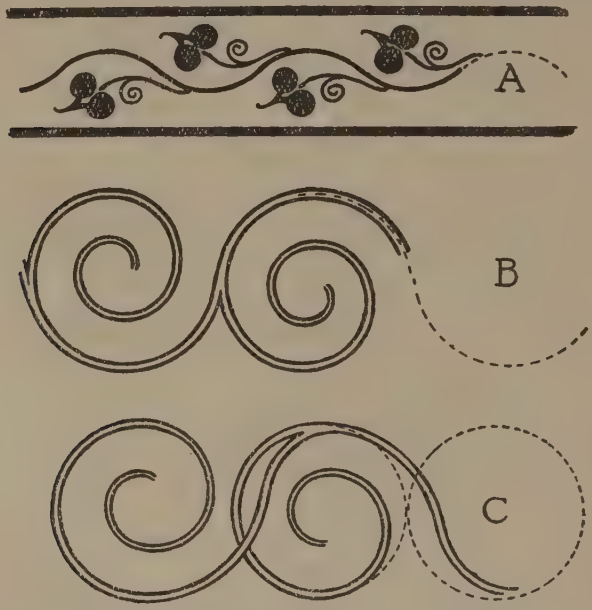
the original direction. This, in its simplest form, is an elaboration of adjacent squares in which a top and bottom line is alternately dispensed with.

Geometric Elements

The simplest elements in border decoration are geometric in character. The border may be divided by straight lines intersecting at various angles, or by curves struck from equidistant centres, or by a combination of straight lines and curves.

The Undulate Line

Intersecting straight lines form the basis of the different chequered patterns in conjunction with the



No. 202. Growth Line based on Geometric Curves.

simple device of alternating light and dark masses. Interlacing patterns are also based on intersecting straight lines. When segmental curves are employed either the chequered or interlacing effect may be

obtained. Such patterns are essentially geometric and mechanical, but some idea of the growth line is suggested by the undulating stems formed out of the arcs of circles struck from either side of the border. This

No. 203. Brocade composed of Undulate Borders.

effect may be used with purely artificial detail, such as arises naturally from the spaces left, or with the introduction of floral detail. It is evident that the curve of the undulating stem will vary according to the position of the centres from which the arcs are struck.

A fuller effect, giving more space for branching and other detail, will be obtained by basing the stem upon

204. Scroll Border based on Adjacent Circles.

No. 205. 14th Century Textile composed of Undulate Borders arranged obliquely.

a series of complete adjacent circles struck within the border. The latter device is the basis of the wave line, which, after all, is only the key or labyrinth with the square angles rounded.

No. 206. French Brocade, 18th Century, composed of Borders.

Border decoration can also consist of leaves or other details symmetrically arranged on a central axis, with perhaps occasional flowers or rosettes to break the monotony.

Repetition and Alternation

Generally speaking, the detail should preferably be of a formal character, and should consist of the repetition of units with no interest beyond that imparted by alternation.

The detail must, moreover, be designed with due regard to the space to be filled, and, in any border which encloses any space, a common divisor of height and width should be found in accordance with which the unit can be designed.

No. 207. The Evolute Scroll as a Border.
A. Continuous. B. Reciprocal.

Treatment of Angles

The meeting angles or corners of borders invariably require special treatment, and in those positions the detail should be compact and stronger in appearance than the general pattern. The simplest expedient is some form of patera or rosette, but, whatever the detail, it should always be in strong contrast to that of the run of the border. The only forms that can be continuous without any marked change in the angles, are the undulating stem, the wave, and its square form the key or labyrinth ; but even with these the proportion of width to height at times needs modification. If a common divisor is not possible, the difficulty can to some extent be overcome by making the form reciprocal and letting

the two sides meet in the centre of the border, so that any slight disparity in treatment and dimensions will not be noticeable.

Pilaster Treatment

As the Pilaster is used structurally in order to give support, so its treatment in interior decoration must conform to architectural requirements, and the decoration should be symmetrical on a central axis and vertical in direction.

When flutes are employed to decorate the pilasters, they should be unequal in number—seven being a favourite number. The flutes may be further decorated by cabling, though this should extend to only one-third of the height. The cabling can be elaborated into a series of husks which may arise from the base or be pendant from the top of the pilaster. In either case the general rule must be observed that the cabling shall occupy only a third of the total height.

Panelled Pilasters

Sunk panels are also used for decorating pilasters. They cover about half the width, and are moulded at the edges. In some instances, notably in pilasters of the Early French Renaissance, the panel is broken in the centre by the introduction of a smaller circular or lozenge-shaped panel. Sometimes the panel is adorned with floral or other detail, and this should be symmetrically arranged on a central axis. For this purpose the undulate stem should never be employed. Such detail requires a start at the base and a definite finish at the top of the pilaster, but for the rest, it may

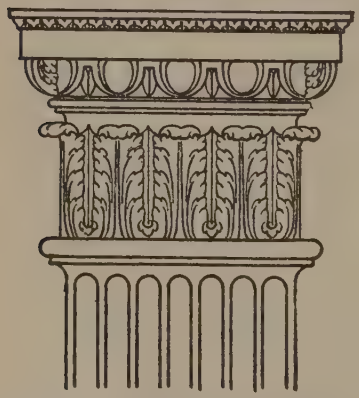
consist of the same unit repeated, or of two alternating units.

In order to emphasise the structural character of the pilaster it was customary to introduce features in the form of mouldings, vases and lables.

No. 208. Pilaster Treatment. French Renaissance

Capitals and Bases

The capitals and bases of pilasters should be in harmony with the other decorations used. The usual capital of the Italian Renaissance is a modified Corinthian type, and this is quite suitable when the pilaster has plain or decorated panels, but when flutes are employed on the pilaster a more ornate capital is desirable. In the latter case a composite form in which the Doric abacus and enriched ovolo figure together with a row of stiffly-arranged vertical leaves, could fitly be used. The Ionic type would also be suitable; when the base of the pilaster is decorated, the lowest detail of reeds of the principal torus may be bound with cross ribbons.

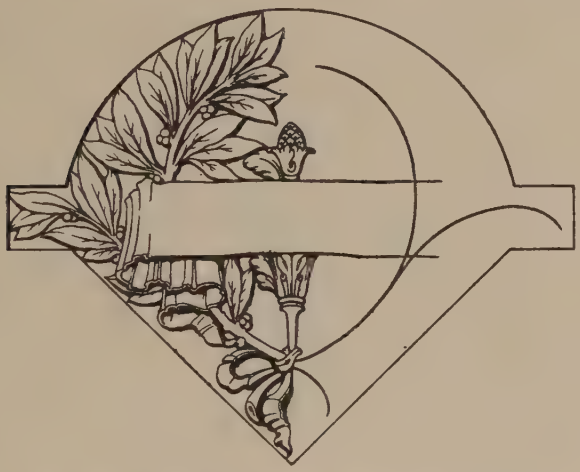


No. 209. Treatment of Pilaster Capital, with Vertical Emphasis.

Treatment of Panels

Panels and enclosed spaces have no structural significance, and therefore in the treatment of them attitude alone has to be considered—

that is to say, the only question is, as to whether the surface to be decorated is in a vertical or a horizontal plane. In the decoration of a panel in a horizontal plane, since it is not desirable to mark any one direction, the detail may radiate diagonally or diametrically from a centre. If, however, in the case of a ceiling, details are employed in the angles formed by the walls, these should grow towards the centre of the ceiling.



No. 210. Ceiling Decoration. Growth from Angle.

When panels or enclosed spaces are used on walls or on furniture of any height the vertical direction should be emphasised as a general rule ; but if the height is less than the width, the decoration, though it should remain vertical in tendency, should also spread so as to conform to the width.

The design of a panel or enclosed space, whatever the shape or attitude, should be complete in itself, having its proper start and appropriate terminals. If

the enclosing border were removed the detail should, by its general disposition maintain the shape, even though the whole surface may not be occupied.

Rich ornamentation is thoroughly in keeping with the nature of the panel—certainly more interest should be centred on panel decoration than on adornment in more subordinate positions.

The decoration may either completely fill the space or only partially do so. In the latter case, the shapes of the unoccupied parts must be carefully considered.

No. 211. Semi-Lunette Panel. Central Feature based on Circle.

Whether the design is a unit repeated on a central axis or is a balanced one, is largely a matter to be settled by individual taste and the position of the panel. Both treatments are admissible in a range of panels ; greater variety can be obtained by symmetrically disposed designs being flanked on either side by balanced designs.

Juxtaposition

When panels occur together, either side by side or ranged one above the other, they may exert influence

on one another. For example, vertical features close to the framing stiles should be repeated in the adjacent panel even though the width of each panel may differ. When the panels are one above the other, central

No. 212. Panels in Juxtaposition.

features should be avoided and the interest should be kept close to the opposing margins; otherwise the effect will be spotty and lacking in repose.

As panels present the best opportunity for display, on account of their treatment being comparatively untrammelled by the considerations to which the more structural features must submit, there is open to them

a proportionately large field of possible decoration. In the first place, the panel may be treated pictorially, with due regard to the requirements of surface and

No. 213. Design for Panel based on Treatment of Celery.
By C. A. Sheehan, Bristol.

reciprocal effect which must be insisted on in mural decoration. If not treated pictorially, ornament of a traditional character, or designs derived more directly from natural forms can be made use of. In either case

the ornament must complete itself within the given area.

The Growth Line

In traditional ornament, composing or strongly marked lines are used, but in types more nearly allied to natural forms, it is necessary for the lines to bear some relation to the character of the selected growth.

No. 214. Analysis of Composing Lines of Panel.

The disposition of leaves and other elements must also be characteristic, and natural terminals must be taken advantage of near enclosing lines so as to avoid any appearance of mutilation. When such forms as branches or leaves approach or cross, they should always do so at decided angles; their points or extremities should never be directly opposed to other details or to margins. The main growth should be clearly discernible, and the direction of the stem lines evident even when clothed with foliage.

Grouping and Massing

It must be borne in mind when designs are based on natural forms that the mere rendering of a natural attitude does not in itself constitute a design. In the case of plant forms, flowers and leaves should be grouped and massed, primarily with a view to the composition of a harmonious whole. Sometimes interest may be added by introducing animal forms in keeping with the general environment.

Interest in design depends on the massing and emphasis of detail, because, if a plain or uniform surface be completely covered with detail equally distributed, with no regard to mass or emphasis of parts, it is obvious that the result will again be uniform—the only difference being that a certain texture is imparted to the surface, and this, though not undesirable in a wallpaper, is not consonant with the nature of a panel.

Division of Area

The massing of detail should be as simple as possible and to some extent should be guided by the scale. One

expedient in panel designing is to draw within the area, whether it be square, rectangular or any other shape, a

No. 215. Phases of Elaboration of Simple Shape.

circle or oval to control the predominant detail in contrast to that which is to be less conspicuous.

Large areas may be sub-divided into several masses,

but the grouping of these must be controlled by the general shape. When dealing with borders a suggestion was made that the undulate stem could follow the

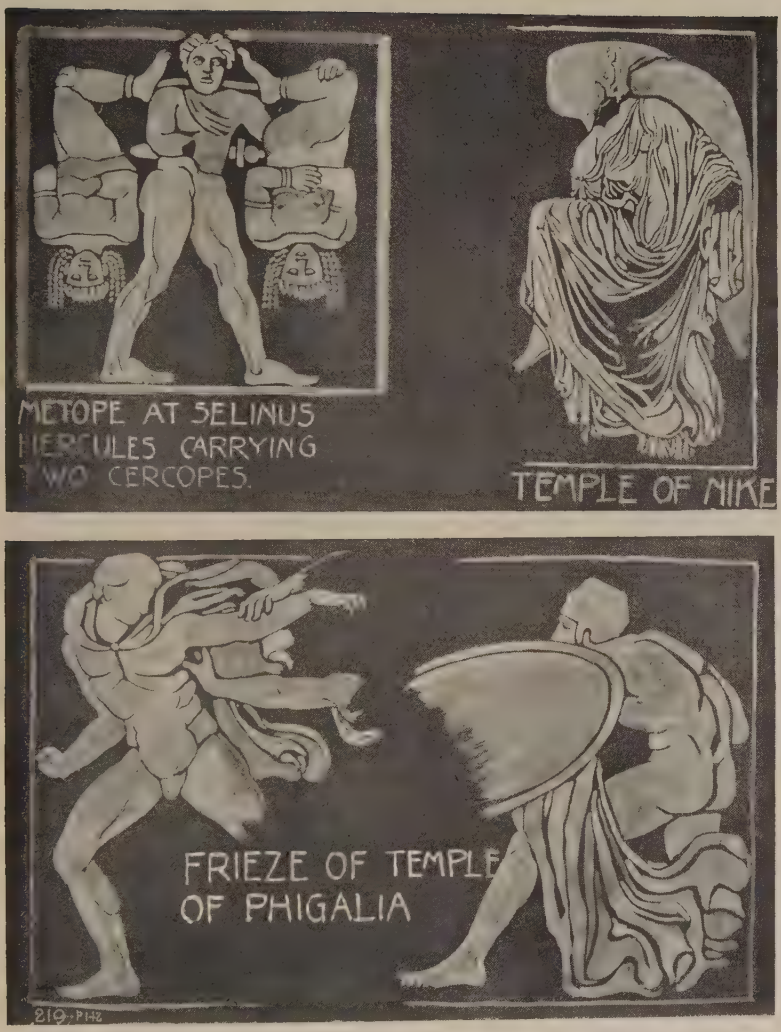
No. 216. Byzantine Panel. Composition based on Circles.

lines of adjacent circles, and this device is the basis of most of the scrolling growth lines that are characteristic of Renaissance ornament.

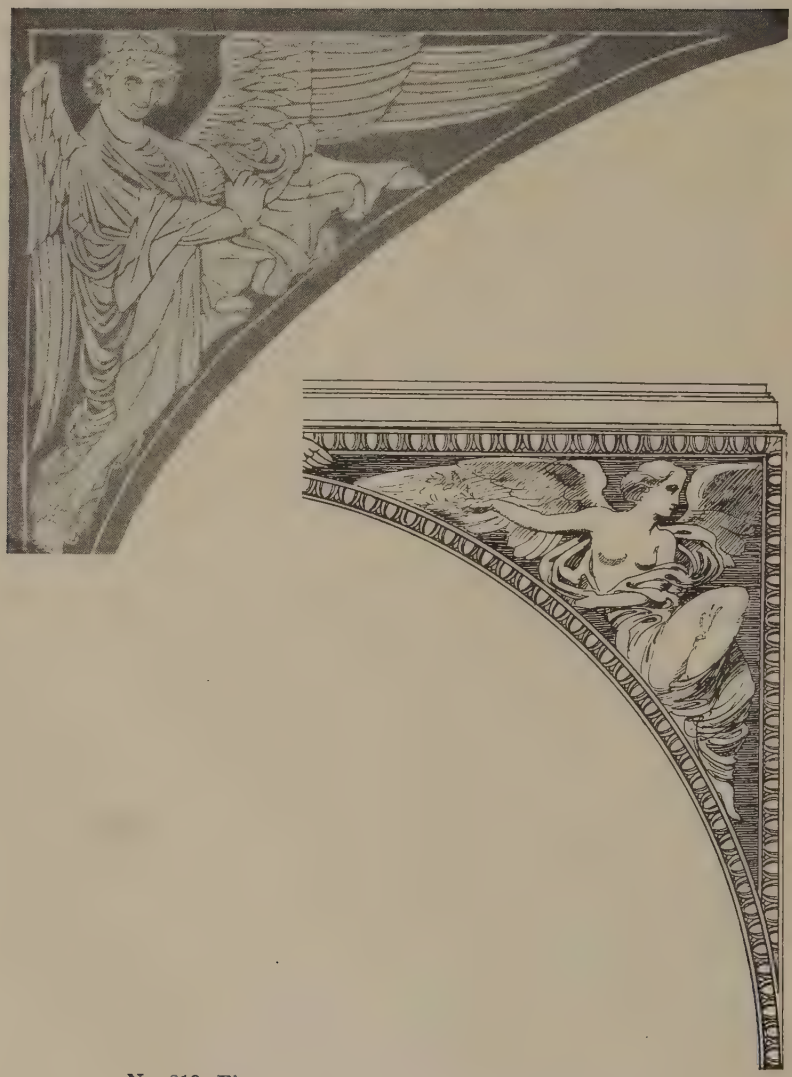
No. 217. Romanesque Lunette Panel. Composition based on Circular Shapes.

Human and Animal Life

Decoration, when the human figure or any form of animal life is employed, is bounded with the same conditions with regard to composition, inasmuch that they



No. 218. Figure Composition. Recognition of Framing Lines.



No. 219. Figure Composition. Spandril Treatment.

must be so arranged as to occupy the area and be in harmony with the boundaries or framing lines.

The license that is permissible in ornament, particularly of the purely conventional type, when it may be compelled in any direction and fitted into any space that is desirable from a decorative point of view, is not possible where the human or animal form is concerned. This adds to the consideration, as natural attitude and proportions are obligatory if consistency has to be observed.

The problem in certain shaped areas affords little latitude, in particular the triangular spandril where the invariable device of wings or floating drapery is as insistent as the head of King Charles in the memorial of Mr. Dick.

Forms in the Round

Forms in the round—such that can be seen from any point of view—need special treatment. Height may appear normal, but the details round the surface will be materially affected by the rotundity. Thus a vase of varying contour might have its surface divided by a series of vertical lines, any one of which, seen from a point of view exactly opposite, would appear straight, whereas those approaching the profiles would appear curved proportionately to the sectional curvature.

No. 220.
Effect of Perspective of Vertical Division.

Perspective also affects the vertical appearance more or less according to the profile curvature, and in

decoration, for bodies that are bulbous in form, the foreshortening and its effect on details must be taken into consideration so as to avoid undesirable distortion.

Supports and Balusters

Other forms in the round that may be considered are supports for furniture, balusters and lamp-post standards. Furniture supports and balusters are invariably in the form of tapered or vase-shaped shafts, and the divisions may be in accordance with the proportions previously suggested. Appropriate mouldings are used to decorate the shaft. When in wood, these forms are either partly or wholly turned, and in this case may be further decorated by carved work. In supports, the general tendency of the details should be in the vertical direction so as to enhance the structural suggestion.

No. 221.
Jacobean Baluster, Carved Wood, showing Vertical and Horizontal Contrast.

Standards

In the treatment of standards it is not so necessary to emphasise the element of support, and the diameter or lateral dimensions can vary to a greater degree. Whether the standards are fixtures or movable, as in interior fittings, there must be a base that will not only be adequate but will convey the idea of stability. In the case of portable standards the tripod form of base is possibly the most suitable, but when

the standard is small the base can be circular, square or polygonal. The commonest form is a shaft, which is frequently tapered. This is supported on a bulbous or vase-shaped form arising out of the base. At the upper end of the shaft is a capital of some kind. These different parts are held together by appropriate mouldings.

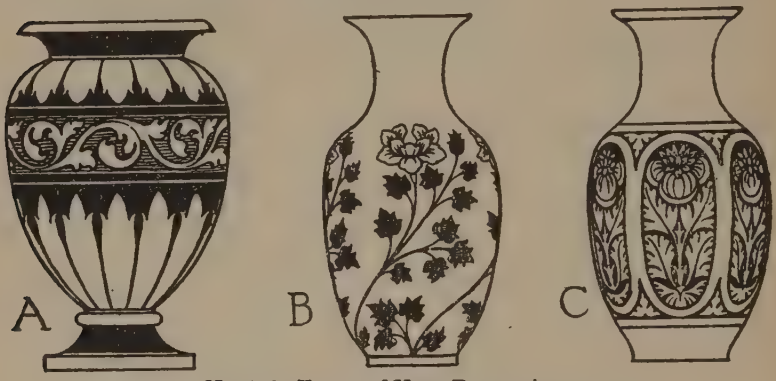
The decoration of a standard, which is largely dependent on its size, should, generally speaking, be applied in the vertical direction with occasional horizontal features by way of contrast. The treatment must also vary according to material.

No. 222. Cast Iron Lamp Standard.

Proportion

Apart from considerations of use and material, the design of this kind of round form is based on inequalities of proportion in height and diameter. Obvious

repetitions of the same dimension are to be avoided. The profiles should be carefully composed with a view to effecting harmony or contrast—the curves either approaching one another in a flexible line or being deliberately contrasting. Mouldings may be used at intervals to mark the various stages.



No. 223. Types of Vase Decoration.
A. Horizontal Banding with vertical Contrast.
B. Oblique or Spiral Treatment. C. Panel Treatment.

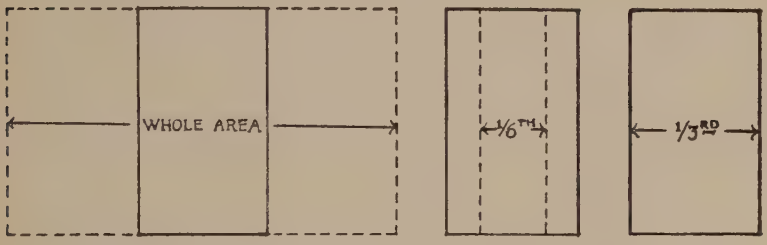
Vase forms vary considerably. When the profile is formed by straight lines they may be cylindrical or cone-shaped. Of course profiles may take other forms —they may be ovoid or trace an ogee curve. When the diameter varies the bulk should preponderate at some one point. When unity of line is desired, the curves of the profile should flow easily into each other, even if broken at intervals by mouldings. In contrasting curves the lines should intersect at right angles in order to avoid indecision of form.

Positions for Decoration

The areas capable of being decorated on vase forms are those bounded by mouldings. The nature and

direction of the decoration will be determined by the profile curves on the sectional form. The direction of the ornament may be horizontal as in the form of a band, but to avoid distortion such detail should only be applied to surfaces of uniform curvature.

If the vertical direction be chosen the decoration may take the form of flutes, of leaves or of panels decorated with detail. A variation of the vertical treatment is obtained by employing similar details in an oblique direction, thus giving the appearance of ornament twisting or twining round the shape.



No. 224. Stretch Out and Segments of the Cylinder.

In the vertical panel treatment, as in mouldings, the sectional or profile curve may be used to determine the general framing lines, with contrasting details between the panels. In order to give variety it may be desirable to combine two treatments—for instance, the horizontal band may be contrasted with vertical flutes and leaves.

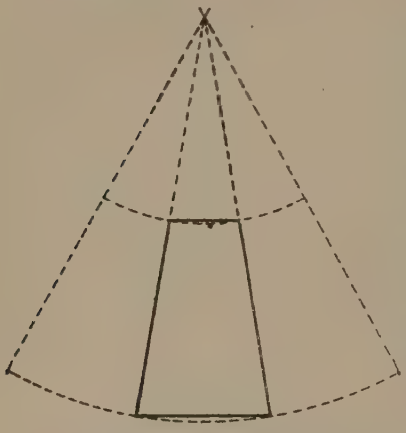
Working Drawings

For a practical drawing the form must be shown in elevation and not in perspective. All the horizontal divisions must be drawn in parallel lines. It is obvious

that except for profiles and general height, further details must be given for a working drawing.

The Segment or Stretch Out

In designing for forms in the round it is necessary to detail the ornament on a segment or a stretching-out of the area. This is easily done in the case of a cylinder of which the height is evident, and the extreme width and circumference easily obtainable. If the object is not in existence for direct measurement the width can be determined from the diameter as expressed in the drawing. As this diameter is about one-third of the circumference a parallelogram three times the width of the diameter will provide, in the flat, the complete area on which detail has to be drawn.

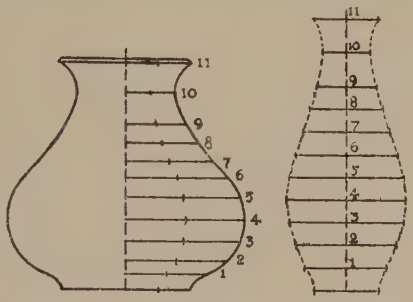


No. 225. Stretch Out of the Cone.

Should the shape of the object be that of a truncated cone—that is, with straight inclined sides and a circular plan, the procedure must necessarily be different. In this case the lines of the sides should be extended till they intersect. This intersection forms a centre from which arcs may be struck coinciding with the lines of top and base. The greatest diameter should be set off on each side of the elevation on the larger radius and the points joined up with the centres from which the arcs were struck. The result is a fan-shaped figure

bounded by these outer lines and the two arcs. This figure gives the entire area of the surface of the truncated cone.

In either of the figures thus obtained for designing detail on, the surfaces can be sub-divided. For instance, if the decoration consists of a unit repeated three or six times round the form, it will not be necessary to reproduce the whole area, provided always that the profiles are straight or tapered.



No. 226. Method of obtaining a Segment of one-sixth of Vase.

As the diameter is about one-third of the circumference the elevational drawing of the cylinder gives one-third of the area and half a diameter gives one-sixth.

In the truncated cone shape the widths are similarly determined, but it will be found that the height, when measured on the centre line, is less than the lengths of the profile lines which constitute the actual height.

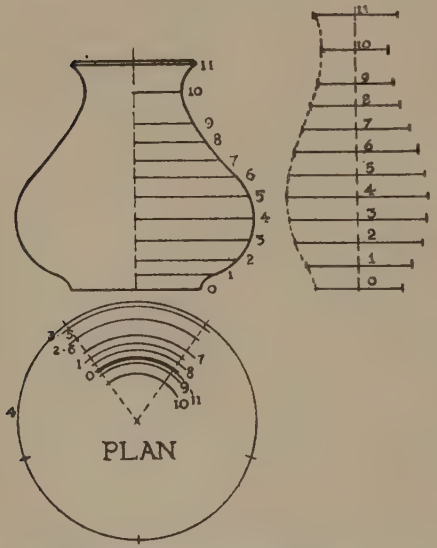
When the profiles are curved, the procedure is more complicated. As in the case of the cone shape, there is naturally some discrepancy between the height of the elevation and the profile, the actual dimension of which is affected by perspective (as also in plan curvature).

To obtain the actual height of the area the profile must be measured vertically with some flexible material, such as thin lead wire, which will readily embrace the curvature.

If a division of a third or a sixth is required the

diameter or half diameter can be taken, but the segment of the area should be set off on a fresh centre line quite independent of the elevational drawing.

In order to obtain the true shape of the segment the elevation should be divided by horizontal lines drawn at the points of marked change in curvature, and these can be lettered or numbered for identification. The distance between each of these lines should be measured and set off on the new centre line, and then these can be used for drawing the parallels through.



No. 227. Method of obtaining a Segment of one-fifth of Vase.

The various diameters can be determined from the corresponding lines on the elevation. Lines drawn through the points thus obtained will give the required segment or area on the flat.

If other divisions than those deducible from three or six are required, it will be necessary to draw also the plan curves from which the division can be obtained. Assuming that the elevation has been vertically divided as before, and the plan to be circular, a circle should be struck which is to represent the largest diameter and its circumference divided into the required number of parts. Lines are then drawn through

to the centre. On the same centre other circles are struck with radii equal to the remaining horizontals, and each identified with the corresponding number or letter. The heights are obtained as before, and the diameters of the variations in the curvature can be ascertained by measuring round each of the plan curves in succession.

In the case of the plan being other than circular, the same rules apply, but the different plans would have to be drawn in each individual example.

Owing to the effect of perspective on rounded shapes, it is undesirable to employ the human figure, unless in bold relief, and then only on straight or slightly curved profiles.

CHAPTER VI

DEVELOPMENT OF CONVENTIONAL ORNAMENT

THE term Convention is applied to decoration in which there is distinct evidence of artistic restraint, which may be purely æsthetic or due to technical conditions.

Outline Drawing

The rendering of any form in outline is probably the simplest form of convention, which is generally accepted through tradition as representation. Though the objects so depicted really depend on light, shade, and local colour for their appearance.

Such outline drawings may be in other respects realistic, but a further degree of convention is the desirable elimination of perspective where it is unsuitable to the effect desired. For instance, in silhouette, profile renderings only are intelligible, and in delicate bas-relief modelling any foreshortening should be avoided if confusing to the effect.

In direct personal work, such as drawing or painting, when craft conditions other than that of the medium employed are not involved, convention is purely a matter of discretion and consideration of the nature and object of the work ; but it is essential in design when the material and method of production have to be considered. In painting the artist may employ the full resources of his palette and be as realistic in his

effect as is in his power, but if the purpose be mural decoration restraint is at once imposed.

Undesirable Realism

Under certain conditions realism would be out of place, and any attempt at illusion would fail to convince. The one time fashion of painting ceilings with sprawling deities of either sex, which cannot be seen without a painful crick in the neck, or worse still to suggest sky with floating amorini, occasionally framed by marble balustrading in wonderful perspective is deplorable.

Such decoration, if it can be so termed, is not only stagey but is foredoomed to failure in effect, as the ordinary interior lighting is not adequate Furthermore, it displays a lack of appreciation of fitness, and that the purpose of a ceiling is to convey a sense of shelter.

Realism, though desirable in portraiture, either of individuals, places or events, is not necessarily of the greatest interest except to those concerned. In mural decoration realism should give place to convention, and the whole considered as a design with regard to balance of form and colour, and recognition of the surface to which the decoration is applied.

The first attempts at decoration were the direct results of material and the manner of working, in which there was no attempt at representation. This was succeeded when the early artists attained more skill by a phase of realism, later still with acquired culture there was a deliberate return to convention.

The dignified conception of the Egyptian rendering

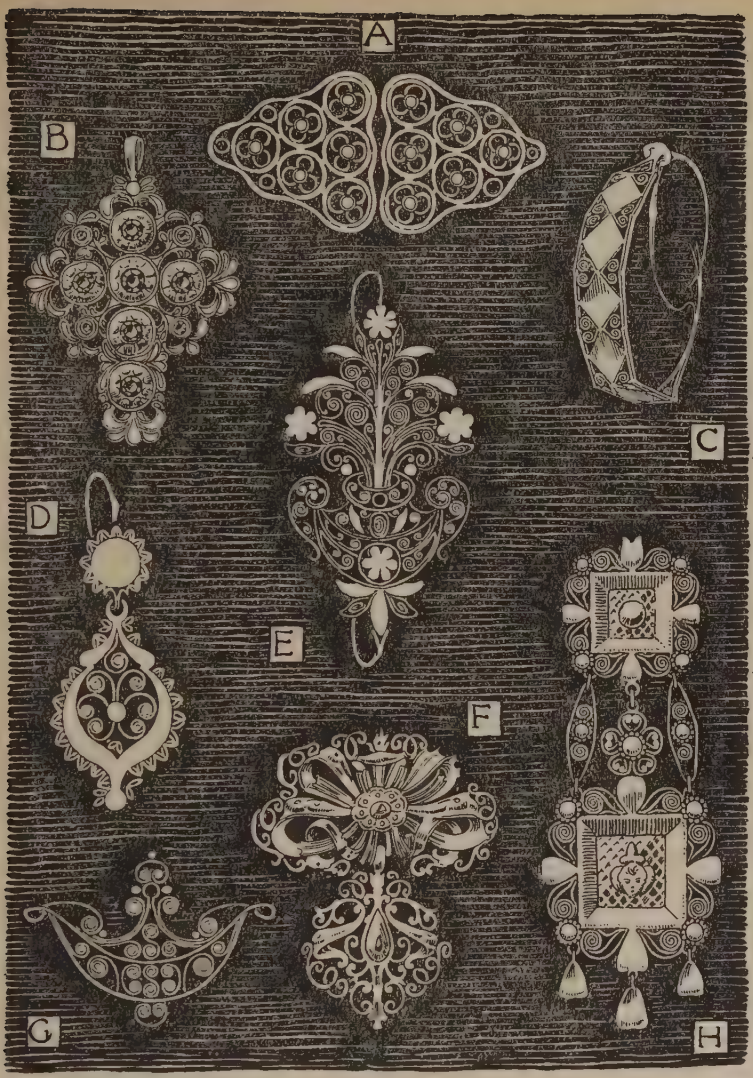
of the Lion, though thoroughly conventional, reveals technical skill and anatomical knowledge of a high order; also appreciation for desirable treatment, and may be contrasted favourably with those by Sir Edwin Landseer round the pedestal of the Nelson Column in Trafalgar Square, in which realism is not subordinated to the decorative and symbolic conditions.

Craft Restrictions

When any craft process is involved the design is only a means to the end, and convention is then imposed by the technical conditions of the craft in question. The designer has to keep these conditions in view, the desirable object being to make the greatest economic use of the process compatible with a good result. It would be a waste of both time and energy to depict effects that could not be realised.

In woven or printed fabrics it is impossible to produce natural effects; even if that were possible the inevitable repetition of the unit would be not merely unnatural but a gross absurdity. The great bulk of the public do not understand convention, hence the popularity of textiles and wall-papers in which the designs consist of flowers treated (however inconsistently) in natural aspect as far as possible; in particular the Rose which, like the poor, is ever with us.

Traditional ornament at its best has generally been conventional, the various details of foliage being æsthetic creations, with at times, perhaps, some suggestion derived from natural types. The scroll in the form of volutes as employed in the Ionic capital may have been suggested by the fossil known as the Ammonite



No. 228. Filagree Jewellery.

A. Hook for Jacket in Silver. Swedish, Mid. 18th Century.
B. Pendant Cross. Gold set with Garnets. Modern Italian.
C. Ear-ring. Gold. Modern French.
D. Ear-ring. Gold. Modern Italian.
E. Ear-ring. Gold. Modern Italian.
F. Pendant. Northern Portuguese. 17th or early 18th Century.
G. Ear-ring. Gold. Modern Italian.
H. Pendant. Gold. As worn by peasants in Etruria.

shell, so called because it resembles the ram's horn of Jupiter Ammon. Its traditional employment in conjunction with the undulate stem, is certainly far from any natural suggestion in the way of growth, while the variety known as the evolute scroll is distinctly artificial.

Materialistic Influence

It is probable that it had its origin in the facility with which wire could be bent, and in early jewellery such scroll forms are conspicuous.

A reasonable conjecture is that the similar forms in early repoussé work, such as that of the gold ornaments found at Enkomi, Cyprus and the painted decoration of the Greek vases, were inspired by the treatment which was the outcome of the use of metal in the form of thin wire. Similar details occur in Peruvian and New Guinea work, which is certainly coincidental as it is difficult to imagine these people having any communication with the Old World.

Scandinavian and Keltic art was to a certain extent influenced by Eastern tradition through the medium of the Phœnician merchant adventurers ; but no such conjecture is feasible in the Maori incised work and tattooing in which similar details occur.

The scrolling line alone may be used, generally in decoration of small scale, as in the Greek vases. In this form it frequently occurs in pottery, either incised or painted, and in filagree jewellery. Wrought iron partakes largely of the scrolling character, but this, as in filagree, is the direct result of the material employed.

Scandinavian and Keltic ornament consisted mainly

No. 229. The Evolute Scroll.

A. Pottery (painted) Archaic Greek.
B. Pottery (painted) Cyprus, 800 B.C.
C. D. F. Gold Ornaments from Tombs at Enkomi, Cyprus.
E. Pottery (painted) Ancient Mexico.
G. Early Greek Stone Carving. Treasury of Minyas at Orchomenos, Boeotia.
H. Assyrian Stone Carving. Sacred Hom or Palm.

No. 230. The Evolute Scroll in Savage Art.

A. B. C. Spatula Handles, Carved Wood, New Guinea
D. Detail on Paddle, Carved Wood, New Guinea.
E. Maori Chief's Staff Handle, Carved Wood.
F. Detail from Tattooed Maori Head.
G. Engraved Bamboo, Borneo.
H. Carved Wood Detail, New Guinea

of a series of scrolling forms, as also did much of the ornament of the illuminated Gothic work and mural decoration. The desire for variety and mass lead eventually to the employment of diverse elements, arising in many instances from different treatment of existing details; thus, during the Renaissance, the side view of a poppy-like flower suggested and became a profile mask, and the husk leaf was frequently elaborated into the form of a dolphin.

No. 231. Scroll & Anthemion Ornament from Greek Vase Paintings.

Early Renderings

The evolute scroll which plays so conspicuous a part in Greek art, was employed at earlier periods by the Egyptians and Chaldeans, and the widespread appreciation and use of this form of detail is plainly indicative that it was not disseminated from any one centre.

In the early employment of these curved forms there is no evidence of natural suggestion, but later, leaves and floral details were added conveying the idea of growth. In Egyptian and Assyrian art certain natural types occur, such as the Lotus, Papyrus and the Palm, but these were utterly denaturalised, all realism being eliminated.

These conventions, though incidentally decorative, were invested with symbolic meaning with which their employment was concerned rather than with the imitation of natural form.

The Anthemion

The Anthemion alone or in conjunction with the scroll or evolute line, appears in a painted form in the Greek vase decoration. Examination of these will reveal

No. 232. Greek Anthemion. Relief Treatment.

evidence of brush-work, the separate details being the result of direct flexion. In sculptured form it appears in the Antefixe, also as a cresting or finial to the stele heads, the separate radial features being channelled with sunken grooves or with ridges in relief.

It is conceivable that the attenuated effect of the mere scrolling line suggested the desirability of the

No. 233. Greek Scroll from Choragic Monument of Lysikrates, Athens. Carved Stone.

occasional mass and variety that would be obtained by employing leaves.

Greek Sculptured Ornament

Greek sculptural ornament is comparatively devoid of natural suggestion, the branching scrolls with sheath leaves being æsthetic rather than imitative. The leaves

No. 234. Wrought Iron Scroll.
Detail of Hinge, Notre Dame, Paris.
Early French Gothic.

employed bear little resemblance to those of the later Roman period, and consist generally of a succession of radial grooves with undulating or prickly edges, and are obviously adapted from the anthemion detail.

In the scrolls employed on the Choragic monument at Athens the desire was evidently play of line and silhouette.

The flexible and open form, though possible in bent metal or in painted work, is unsuitable to carving in stone. Adequate support being essential, the scrolls had to be united by the leaves, which were necessarily massed in form and decorated by channellings or grooves to give further detail and interest.

No. 235. Acanthus Leaf. Composed of groups of Anthemions. Brush-work.

A development of the leaf treatment was the division into lobes, each lobe being channelled with a group of radial grooves ending in serrations. The lobes were divided by holes, or, as they are generally termed, eyes, more or less circular in shape, and these were connected with the base of the leaf by pipes or Tines in relief, conforming with the general radial distribution.

Acanthus Leaf

Leaves of this type are known as Acanthus, and it is a tradition that the leaf in its original employment was derived from a natural source. The anthemion,

too, is often mis-called the honeysuckle owing to the supposed resemblance ; but it is much more probable that both were purely artistic creations developing as previously suggested from the painted anthemion details. Elaboration and relief expression were the natural outcome of material, and desire for surface interest. The honeysuckle origin is completely confuted by comparison of the Greek anthemion with the Assyrian treatment of the Palm, by which it was evidently inspired.

No. 236. Acanthus Scroll. Brush-work.

In Greek ornament such flowers as occur are mostly of the rosette type, quite conventional in character, though in the painted decoration such natural forms as the ivy and vine are evident ; but these were always conventional in treatment and symbolic in interest.

The Greeks were not creative in art either in their architecture or ornament, and were evidently indebted to the earlier culture of Mesopotamia for many of their details. As they based the anthemion on the Assyrian treatment of the Palm, so they borrowed the Ionic capital from Persia and the Corinthian variety had its prototype in the Egyptian Papyrus capital. Even their architecture was no advance in principle on that which previously existed.

Their treatment, however, was extremely artistic, and they invested all their work with great refinement and delicacy of detail. At a later period under subjugation the Roman art development was practically in the hands of Greek designers and craftsmen, and acquired great freedom of expression marked by exquisite workmanship in the Græco-Roman period.

Roman Development

The details and treatment of ornament developed rapidly in the Roman period, in the variety and forms of the elements employed. The principal exponents were Greek, but the original austere character of expression underwent considerable modification.

The Scroll

In Roman art the scroll, which constituted the chief decoration of the friezes and panels, was greatly developed and rendered with more freedom and variety of treatment; assuming the form of a growing or climbing stem, bearing flowers and clothed with leaves. A treatment which is fairly consistent with such types as the Vine and other climbing growths in nature.

The undulating stem with branching scrolls is prominent, both in friezes and panels; the character of the foliage became more varied, the stiff and formal acanthus leaf being only used in the capitals of columns and in structural features.

The version employed in more decorative positions

Photo] No. 237. Detail of Roman Frieze, in Carved Stone. [E. Richter.

exhibited greater freedom in form, attitude and section. Natural types for the sake of variety were used, generally in subordinated positions, and there is occasional evidence of the influence of these in the treatment of the acanthus detail.

Græco-Roman

The development of art during this period cannot be attributed to native talent, the Romans being content to borrow their art as they did their religion. It was rather due to the opulence of the times, though the practical character of the race resulted in a great advance in architecture.

The later Roman, generally termed Græco-Roman, varied from the more robust treatment and reverted somewhat to the earlier Greek manner; tending to delicacy and refinement, but retaining the variety of character and detail.

Byzantine

The State recognition of Christianity had a great influence on art in that there was a return to symbolism. Various pagan elements associated with the earlier decoration that were unsuitable to the feeling of the time were eliminated. Eastern influence is evident, in not only the architecture but in the treatment which is known as Byzantine, of the foliage, which resembles that of the archaic Greek, the leaves being more stiffly lobed, and severely channelled with V-shaped grooves, in place of the subtle modelling of those of the Roman period.

The stem or growth line is comparatively absent,

and the prevalence of the circle as a shape or in the arrangement of details is evident. Decoration displays

No. 238. Gothic Spandril. Carved Stone.
Geometric basis obvious in central circle uniting angular shape with minor circular forms occupying angles.

more regard to profile than to variety of relief, which was practically uniform.

The Byzantine influence is evident in the succeeding Romanesque.

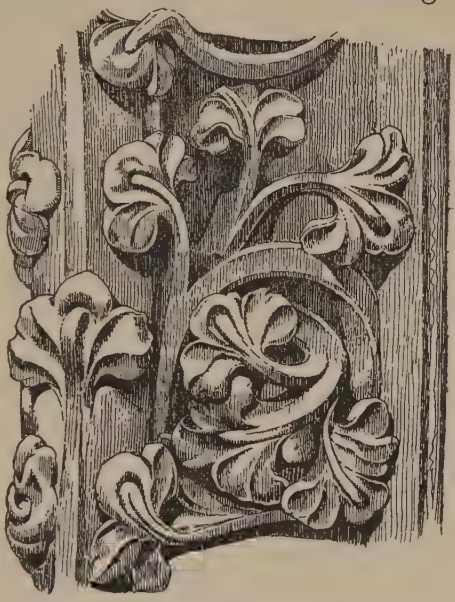
Romanesque

Early Gothic detail, the closely curled foliage of which is suggestive of lobes though without serrations, is reminiscent of debased Roman tradition, evident also in the general shape and disposition of leaves in the capitals of columns. The floral ornament of the Middle or Decorated period, though freely adapted from natural types, shows traces at times of the earlier tradition in the treatment of lobed and serrated leaves.

Italian Renaissance

The Italian Renaissance was not merely a revival of Classic architecture adapted to more modern conditions, but was in its earlier stages a frank reproduction

of the Roman ornament in design and rendering. In later development in Italy and other parts of Europe it acquired local character differing materially from the original. Fresh elements were adopted and details originally significant were introduced for purely decorative reasons.



No. 239. Early Pointed Gothic Stone Carving. Ely Cathedral.

The Husk Leaf

A feature of the foliated scroll is the Husk Leaf, either Acanthus, that is—lobed and serrated, or compounded of water leaves with smooth and undulating edges somewhat similar to the hart's tongue fern.

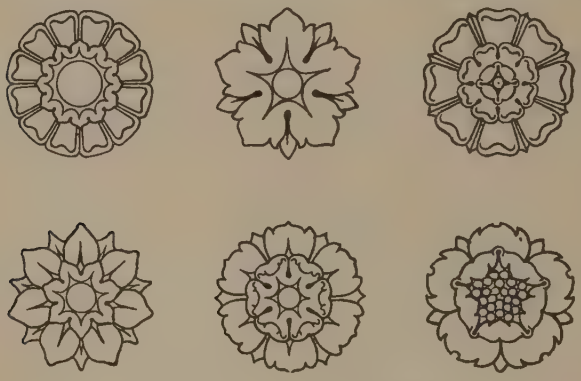
The Husk either grows tangentially from the stem which it sometimes envelopes in the sheath form, or has at its base a floral-like feature known as the Bract; this, however, was seldom employed in Greek ornament, a boss-like annulet being more general. The Husk is largely employed to mask or cover branching, and either, as previously stated, grows tangentially from the stem, or takes a bulbous form with a broad and rounded base when it appears to be threaded on, rather than articulated to, the stem.

The Rosette

Such flowers as were employed in the earlier ornament displayed little regard to nature, being mostly of

No. 240. Italian Renaissance Scroll, shewing Acanthus husks with bracts, sheath leaves and floral terminals.

the rosette form with petals radiating from the centre ; as a rule these were composed of simple leaf-shaped petals in one, two or more tiers arranged concentrically ; in this form of rosette the petals are symmetrical in



No. 241. Types of Rosettes.

shape. The number of petals is a matter of scale and taste, but an unequal number will invariably be found more interesting. Arrangements of five or seven in

preference to four, six and eight. Frequently the spaces between the outer tier are occupied by narrow leaves suggestive of the sepals in natural flowers, and these serve the double purpose of giving variety and preserving the circular shape.

Further variety can be imparted by the arrangements of the petals on a revolving instead of a straight axis, either consistently in one direction or symmetrically disposed from a centre in a palmate form.

The Rosette in ornament is useful as a pause point, giving repose, but where it is desirable to continue the flow of line, other floral forms can be employed, such as the tulip or the lily, which are displayed to the best advantage in profile or perspective.

In conventional ornament the flower petals should be in contrast to the leaves employed on the scrolling stem.

The Pistil in nature is reflected in the various sprouting forms which emerge from the conventional flowers of the Renaissance, and at times develop into further stem growth. On æsthetic grounds this may be excused in cases where flow of line is of greater importance than consistency. The Pistil takes many forms, being frequently composed of a series of diminutive husks. Flower buds of similar husk form occur, the petals being similar to those of the flowers employed.

Tendrils

Tendrils serve a useful purpose in giving unity to the design, for which there is ample suggestion in such natural growths as the Vine, Pea, etc. Too often in

traditional ornament they are employed to merely occupy obviously awkward spaces. In Roman ornament flowers articulated on tendril-like stems were often used apparently to occupy the spandril-like spaces resulting from the branching scrolls.

No. 242. Ornamental Treatment of Tendril from Roman Frieze.

Nature Influence

During the Roman development greater variety was introduced in the treatment of leaves and flowers which in many instances display evidence of natural suggestion. The main stems are sometimes twisted, a characteristic of some strongly growing natural types, but this was only a variant of the earlier treatment of decorating the scrolling stem with channels or hollow flutes.

Birds and animals were also used in antique ornament—grotesque combinations of foliage with human and animal forms, and such symbolic monsters as the Gryphon and the Sphinx, were employed with little regard to the original significance. Other symbolic elements, such as wreaths, garlands, festoons altars, tripods, and urns were also introduced merely for their decorative value and to afford variety.

Symbolic Employment

The modern mind is naturally out of sympathy with forms that have no direct appeal, but it should be

considered that these elements were originally not merely the expression of the art of the period, but were also invested in many instances with symbolic meaning. The Roman citizen saw nothing incongruous in decorating a triumphal arch with the chaplet of the victor and trophies of arms.

The later misuse of symbolic elements can only be defended on æsthetic grounds, and is probably undesirable. Without these there is still left sufficient material for beautiful effects. Dull slavish reproduction is not only without interest, but displays lack of inventiveness. It is possible in good hands to utilise the past tradition so as to appeal to modern appreciation.

Consistency in Growth

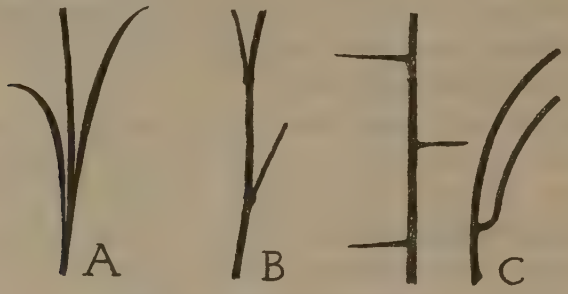
However arbitrary traditional ornament may appear, there is consistency in the best examples, which display in many details some general observance of the principle of natural growth. There may be no attempt to exploit any known type, the creation being purely artificial; still the association of stem, leaves and flowers is suggestive of natural growth.

The arrangement is generally progressive, as in nature a plant develops outwards and onwards from the root, and the orthodox scroll ornament may be considered as a stem of undulate form (constituting the growth line) with branches, elaborated with leaves and flowers which are arranged successively.

Branching

In traditional ornament the most general form of branching is tangential, the scrolls and leaves emerging

radially from the main stem, with slight divergence; but in nature many varieties of branching may be observed and applied with advantage in design.



No. 243. Types of Branching.
A. Tangential. B. Acute-angular. C. Right-angular.

Generally natural branching may be classified into Tangential, typical of grass growth and water-plants; Acute and Right-angular. The latter is sometimes usefully employed in ornament, as it conveys a sense of strength and vigour, though as a concession to the rhythmic flow of line it should follow for a short distance the curve of the main stem.

Independent of the angle, branches may occur opposite, that is, grow simultaneously each side of the stem, Alternate, or spirally round the stem. The distances between the branches may be equal, or, as in some instances, in alternate long and short distances. The opposite

No. 244. Formal Opposite Branching suitable for Vertical Borders & Pilasters.

arrangement of branches is most suitable where rigidity of effect is required, but the alternate branching is susceptible of greater freedom and license.

The stem, as it throws out each branch, may gradually diminish in diameter, each branch being less than the parent stem ; the length of each successive branch

No. 245. Branch and Scroll Terminations.

may also diminish and the leaves on these be subordinate in size to those of the main stem.

Leaves

The detail of these smaller leaves may be less complex as they approach the terminals, a characteristic in natural growth where the necessary energy to produce

the flowers results in restricted development of the leaves on the flower stalk.

Equally consistent from the nature point of view is the employment of the large husk leaves which generally cover the points of branch emergence. As already stated, these are not articulated, but either spring tangentially from or are threaded on the main stem in contrast to the smaller leaves, which are often provided with individual stems. Occasionally the scroll terminals are not furnished with flowers but develop into sprays of small leaves radially disposed.

The Start

An essential condition in panel ornament is the Start or commencement, which should at least be consistent. The natural root is not in every case sufficient, though at times it may be employed with effect.

The start point of the growth line or lines varies in position according to attitude. In panels in a horizontal plane, the start is frequently central and the traditional treatment is usually some form of rosette from which the other details radiate.

In some positions, particularly pilaster panels, the ornament is suspended, which is consistently rendered by the employment of knobs and ribbons. Ribbons are not only logical, but interesting on account of the variety afforded and are also of service in giving unity to a composition. Extremely amenable to harmonious arrangement and susceptible of great variation, the ribbon can be twisted, folded or arranged in groups of pleatings, the ends being occasionally scrolled or split.

The start mostly in evidence in ornament is that

known as the Cup or Nest, which is composed of leaves arranged somewhat in the form of a tulip, with generally an inverted cup leaf below. It is composed of leaves either of the Acanthus or water type, but for the sake of variety one of these may appear in the upper part of the cup and the contrasting form in the lower. The proportion between the two parts as to height and width should also be varied, and when the cup leaf is used in pilaster panels it generally occupies the whole width of the base.

No. 246. The Nest or Cup-leaf Start.

No. 247. Italian Renaissance Foliated Figure Start.

Such artificial objects as vases and baskets form fairly consistent base starts for floral detail, others as Altars and Tripods are not quite so logical, though useful in conveying a sense of support. Shields and Labels, generally employed centrally in wide panels where the ornament

is displayed laterally, are effective in the contrast they afford to the floral details.

The employment of half figures as starts cannot be defended; the illogical association of life, either

No. 248. Italian Renaissance Panel, Choir Stalls, St. Pietro, Perugia. Stefano Martelli, 1535.

human or animal, with foliage as employed by the designers of the later Italian Renaissance, is too incongruous to be excused on æsthetic grounds. Such were due to change in taste and desire for variety, and probably were suggested by the much earlier employment of compound animal forms as furniture supports.

The Acanthus leaf prominent in Renaissance detail, was at first deliberately reproduced from Roman examples, and its architectural employment as in the

No. 249. Italian Renaissance Panel, Choir Stalls, St. Pietro, Perugia. Stefano Martelli, 1535.

capitals of the Corinthian order, has survived to modern times as the most suitable rendering for such structural features. In more decorative positions marked changes are evident in the later phases, the Cinque Cento renderings being perhaps the high water mark of the Italian designer. In these the lobes were angular in general outline, with beautifully balanced minor lobations

and the surface contours delicate and subtle in modelling.

Renaissance Influence

The early examples of Italian Renaissance in France and England are generally pure in style, being in most instances of Italian design and execution. Later work by native exploiters in emulation of the style is invariably quite different, until the new style was better understood and assimilated ; eventuating in versions that were distinctive and local.

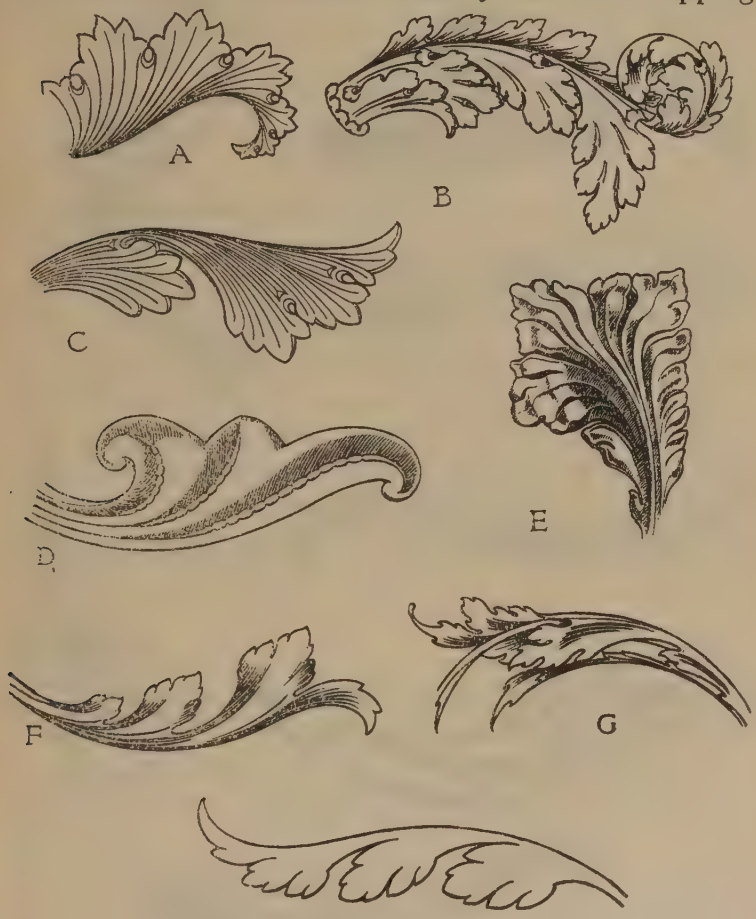
No. 250. Early French Renaissance Carving. Francis I.

In the early French Renaissance the acanthus leaf was generally displayed in profile, the lobe being elliptic and pointed in shape, with clearly defined minor divisions ; the sectional form was comparatively simple. Similar treatment, without the precision and grace of line characterised the Jacobean work in England ; the relief work of which, being rather in the category of flat carving, consisting mainly of incised lines and grooves by which leaf form was expressed in profile or silhouette. These were invariably archaic and crude, though in view of the direct and simple execution not without individuality and interest.

Jacobean.

A characteristic feature of the Jacobean style is the ornamental interlacing strapwork, with foliated or

scrolling ends. This doubtless was in emulation of the French work of the period of Henry II, when strapping



No. 251. Development of the Acanthus Leaf.
A. Greek. B. Roman. C. Byzantine. D. Romanesque.
E. Decorated Gothic. F. G. Italian Renaissance.
H. French Renaissance, Period of Francis I.

composed of straight and curved lines entered largely into ornamental detail. In the period of Louis XIII

No. 252. Development of the Acanthus Leaf.

I. French, Louis XIV. J. English, Grinling Gibbons.
K. French, Louis XV. L. English, Adam.
M. French, Louis XVI. N. Louis XVI (Salombier).
O. English, Late 18th Century.

shield and cartouche shapes were much in vogue, on account probably of their mass value and the contrast afforded with the subordinate detail, which developed into the foliated strap frame of the Louis XIV style.

The details of this latter period were expressed in bold relief, the decorated areas being well filled, in contrast to the earlier Italian style in which the background frequently predominated over the ornament. The sectioning or modelling of the leaves, which by this time were typically French, was elaborate but well considered as to harmonious play of line. Shell forms were employed and were effective, both as mass shapes and for the radial elaboration of their surfaces.

In conjunction with artificial details, natural foliage was employed in the form of wreaths and festoons, composed of leaves and appropriate flowers ; the conventional stem was little used, the foliated strap being more often evident.

Régence

The immediate successor of the style of the Grand Monarch was the phase known as Régence, in which the strap frame was moulded in section, and the whole detail became much lighter, resulting in more open or plain spaces.

In the period of Louis XV restraint was thrown overboard, panels and enclosed areas were framed with mouldings irresponsible in curvature, and without regard to structural conditions. The growth line disappeared, the leafage and other details being arbitrarily disposed on the framing mouldings, which were generally in flattened and elongated curves opposed

to each other in flexured lines. In comparison with the preceding Louis XIV style the ornament is thin and liney in character, the leaf, still of the acanthus type, is greatly modified both in form and detail, the ends of the lobes being curled and twisted spirally.

Rococo

In minor floral details natural types were employed, also such artificial features as canopies or hammer-cloths ; rock and shell forms, and stalactite details suggestive of icicles are comprised in the later phase to which the term Rococo is applied.

Louis XVI

As a natural revulsion from the license of this period in the succeeding Louis XVI style there was a distinct reversion. The curved framings were abandoned and panels and other areas were enclosed by mouldings with regard both to structural and materialistic conditions. Great refinement is evident, not only in the mouldings but in the details throughout.

In contrast to those of the Louis XIV period, panels were occupied rather than filled, the dominant details being placed at the upper and lower extremities and connected by vertical features either centrally or at the sides, steadily arranged as to alignment both horizontal and vertical. Familiar details thus employed are such amorous emblems as quivers, torches, trophies of musical instruments and bouquets and festoons of natural flowers.

The artificial leaf reverted somewhat to the earlier Italian type, and was mostly displayed in profile with

the lobes and serrations carefully composed. The detail though comparatively low in relief, was boldly modelled, and the direction and emphasis of the lobes and veinings of the leaves considered with regard to the composing lines.

Grinling Gibbons School of Carving

In England the work of the school of Grinling Gibbons was productive of a phase of ornamental expression distinctive for its artistry and technical skill. Conventional details were combined with natural forms of all kinds, the conspicuous arrangement being interlacing scrolls, and festoons and pendant swags.

In the artificial leaf, with its boldly grooved surface and accentuated lobes, the evidence of the tool is manifest throughout.

The tradition established by the Grinling Gibbons school had a lasting effect upon the native carving, which endured throughout the Georgian period, though largely influenced in detail by French taste—Rococo in particular.

Adam Style

The designs of the brothers Adam, which were in vogue in the reign of George III, though peculiarly individual and distinctive, were based upon the study of Græco-Roman details. In the Adam style the ornament is delicate in relief, and mostly displayed in profile. Panels and enclosed spaces are occupied, the decorative elements being carefully disposed with regard to balance and stability, with large areas of plain surface.

The characteristic and prevailing details are the fan and delicate festoons of leaves or husks, at times of beads.

The anthemion is much used on friezes and borders, and compound animal forms, such as the Sphinx, were borrowed from the antique, the same source doubtless inspiring the employment of vases, altars, and tripods.

Medallions occur occupied by figures after the manner of the Greek vases. In some instances these were in pottery, the work of Wedgwood.

The general structural form was architectural, the mouldings slight in projection and refined in their profiles being decorated by orthodox enrichments.

The foliage is mostly artificial in character, the leaf lobes in those of the acanthus type being orderly in arrangement with regard to profile and radial display, with comparatively little modelling.

Empire

A similar revival of the Antique succeeded the Revolution in France, in the Empire style, which, more literal in reproduction than the Adam work, is characterised with, at times, undesirable severity and precision of detail, particularly in the treatment of the human figure.

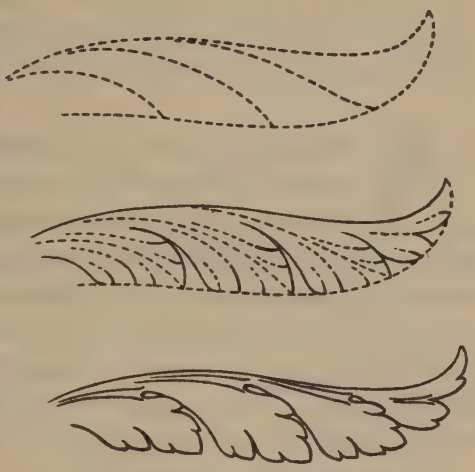
System of the Acanthus Leaf

The system of the acanthus leaf is based entirely on radiation, the tines and veinings being arranged in consistently diverging directions from a common base or start-point. Whether the whole leaf be displayed or merely the half leaf used, the shape should be bounded

by general lines controlling the lobes and their serrations—the mass shape forming a satisfactory silhouette.

The length of the lobes should be relative to the breadth of the leaf, the maximum length agreeing with the maximum width, and the others in proportion.

The edges or outlines of serrations and lobes should also be controlled by radial lines from the base.



No. 253. Construction of the Acanthus Leaf.

In turn-overs and curling or twisting lobes the silhouette shape and composing line must be considered.

The apex of leaf terminates with a central lobe balanced by side lobes repeated throughout. In treatment these may be displayed clear of each other, or they may overlap, but care must be taken to avoid confusion in effect.

CHAPTER VII

TREATMENT IN DESIGN

APPRECIATION of design by the individual is largely a matter of temperament, though it may be due to some extent to acquired knowledge. Generally, few are conscious of any guiding principle, and selection in their case is mostly the result of fashion or custom. To others certain colours and forms have an appeal, though they may be quite unconscious of, or unable to explain the attraction other than it suits their taste.

In the last few years it has been recognised that colour may be employed beneficially in curative treatment, but the normal healthy individual is often indifferent to environment other than that of material gratification.

When any artistic work creates pleasurable emotion, it is purely a matter of cause and effect. To design successfully involves some understanding of the causes or factors which constitute the appeal.

Natural Attraction

The attraction of colour and form is undoubtedly universal, and may be generally understood, though there are delicate degrees of proportion and association in both that may only be appreciated by the cultivated eye. Early essays in drawing generally exhibit an undesirable redundancy in curves, and in many

instances the student is slow to realise that those that approximate to the elliptic form are proportionately of more interest than those obviously composed of segments of circles. Undoubtedly this subtlety of line is one of the predominant factors in appreciation of form.

A factor in pattern that is largely responsible for the charm is the presence of small detail in juxtaposition with larger forms. This is entailed in instances by technical conditions, such, for instance, as in some tapestries where inhabited pattern is essential to the process of production.

Decorative Materials

Some materials are employed partly for their decorative effect, such as naturally figured woods and certain varieties of stone ; and design mainly consists of judicious selection, use and treatment. Oak and walnut being woods extremely suitable for structural work and furniture have always been in request when obtainable.

Polishing is to some extent a preservative, but work in oak or walnut, especially when carved, should be kept comparatively dull, otherwise confusion between the relief and the natural figuring would result. In mahogany or satinwood, where the chief interest exists in the figuring and colour, carving is undesirable and the best effects are obtained by high polish. It may be urged that in the Chippendale period the work was invariably carved, but the detail was always in very low relief, and the finishing dark in colour, in which the figuring was subdued. Mahogany in its more

general employment owes its chief beauty to the development of figuring and colour.

Certain marbles are used for their decorative effect, and the natural colour and figuring developed by polish. Statuary marble that is sometimes employed, is more suitable for carved details, and appears at its best when unpolished, though in this state it is extremely subject to discolouration owing to its absorbent nature.

Granite, so popular in our cemeteries, is often polished, when the natural figuring is unpleasantly aggressive. An extremely hard stone and laborious to work, it is not suitable for carving, and is best left roughly tooled or frosted, when the natural chrystaline formation appears to the best advantage.

Justification of Treatment

The softer woods used in interior structural work are generally painted, partly as a preservative and largely because they do not possess any figuring of particular interest.

Graining in imitation of more precious woods is often condemned as inartistic, but it may be urged in extenuation that it is the most economic treatment, as it helps to minimise the effect of wear and incidental damage.

The use of pattern wall-papers and floor coverings can be justified on the same grounds, as in those with plain surfaces any disfigurement is readily seen. Wall-paper, however, is quite a legitimate form of decoration and not necessarily imitative, though to some extent it is reminiscent of the early custom of employing

tapestries as wall coverings. A more durable and artistic treatment of interiors is that of the wainscotting of the Georgian period, but the initial cost is proportionately great, though probably when maintenance is taken into consideration it would be cheaper in the long run. Apart from the question of cost, the modern tendency is favourable to change of effect and environment, due partly to the facility afforded by the comparative cheapness of wall-paper, but even more to the prevalent short tenancies.

Undesirable Imitation

Many excellent designs are produced in wall-papers, though there is a tendency at times to reproduce textural effects which can only be justified on æsthetic grounds. Those of the frankly imitative kind cannot be condoned. It is still possible to have the hall and stairs papered and varnished to resemble slabs of precious marble, or patterns in mosaic, which were undreamt of in Byzantine times; and the orthodox design for the bathroom is still that of tiles with the joints neatly printed. Similar imitation is also apparent in linoleum, when the pattern simulates the appearance of either wood parquet or mosaic, or even worse —that of a Turkey or Axminster carpet.

There is an element of priggishness in such cheap art in which, as though ashamed of poverty of material, there is an assumption of something better; and it is lamentable that there is not merely a market for these shams and imitations but curiously enough they also find appreciation.

There are phases of work where simulation may to

some extent be justified, for instance, silver is sometimes gilt. For this there is the excuse that silver, although a beautiful metal, is subject to oxidation and requires constant attention to keep bright. Gilding acts as a preservative, and is therefore justified in certain forms of silver work, which it is not convenient to clean in the ordinary way.

Technical Considerations

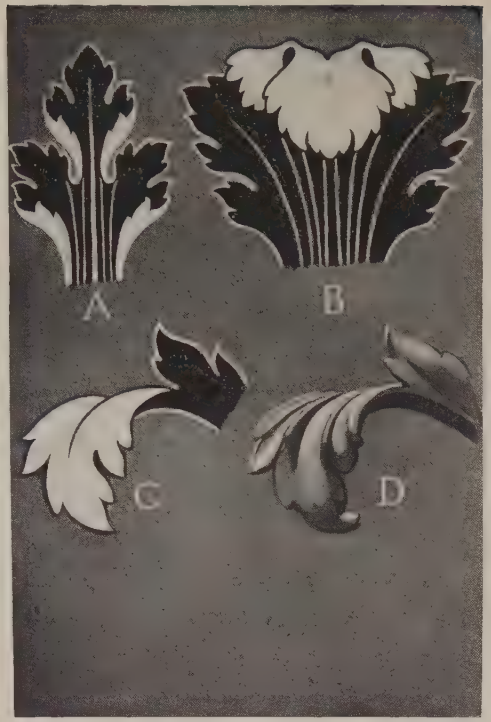
It has already been suggested that Design is not merely a question of idea and draughtsmanship, but is also dependent upon materialistic conditions, which, in practical work, must be understood and properly considered.

Whether the intended design be for some form of flat pattern, such as weaving, etc., or for any particular craft expression, it is essential that the limitations of the process and material involved be clearly kept in view, and that suitable elements for expression be chosen.

Convention, to a large extent, exists in the adaptation of forms, natural or otherwise, to the exigencies of production, a proper understanding of which will not only tend to economy in cost, but also to more effective results, if full advantage be taken of the craft or mechanical conditions, which should always be foreseen in design.

Methods of Expression

Methods of expression vary, according to position and material, and may be Flat—either silhouette, or with appearance of relief, or in actual relief.



No. 254. A. B. C. Flat Treatment, Silhouette important. D. Relief Treatment of C.

No. 255. A. Flat Treatment. B. Relief of Husk Leaf.

Contrast exists always, thus in the Flat with or without outline the contrast is in Light and Dark, whether colour is involved or not.

In Relief the contrast is in Light and Shade. Contrast exists also in both treatments in lines straight and curved—in the variety of the latter, in lines with mass forms, and in dominant forms with smaller detail.

In the treatment of Flat Ornament the most important considerations are play of line and silhouette, and forms should be displayed in interesting profile; perspective and foreshortening being eliminated whenever they would result in distorted or inharmonious shapes.

In Relief treatment the designer is concerned with the effect of Light and Shade in harmonious arrangement of mass and line.

Perspective and foreshortening are permissible to some extent, but are largely dependent upon the work, greater license being allowable in high than in low relief.

Treatment of Leaves

In Flat ornament, leaves are invariably in profile, but in Relief expression they may be folded, that is, wrapped round the stem. Greater freedom is possible in the turn-overs.

Relief ornament should recognise ground by details being occasionally displayed in lower relief.

Whether expressed in Flat or Relief, the composing lines should always be emphatic, and their direction traceable through the details, floral or otherwise.

Surface Interest

In addition to the foregoing, a further consideration is that of interest of surface, which may consist of contrast in textures of rough surface with smooth, of patterning on form, veining and striation of leaves and flowers, and of the employment of trellis or imbricated pattern. The latter in conjunction with other details, occur in the decorative work of the later French Renaissance.

Painted Decoration

The technical means of obtaining the interest of surfaces is, of course, incidental to the process involved. If the decoration be the result of painting, the design is free and untrammelled by any other than purely æsthetic conditions. Such, for instance, as the desirable recognition of surface, and the pattern sense suggested by recurrence, if a decorative rather than a pictorial effect is desired.

When the decorations consist of ornament, wholly or partly, they are occasionally rendered in a conventional manner, based upon the appearance of Relief, as in the Pompeian wall decorations and the painted work of the Italian Renaissance. There is ample precedent for this treatment in traditional painted decoration, but deliberate attempts at realistic effects are not only undesirable but to be deplored.

The interest in Painted Decoration, apart from colour, design or subject, would be that of the individual manifestation of the designer and painter.

Stencilled Work

Stencilled decoration is a compromise between painting and mechanical printing, and is restricted by the unit. The repetition of this is practically mechanical,

No. 256. Inhabited Details from Woven Fabrics.
Interest imparted by patterning on forms.

though considerable license is possible in the treatment of colour, which has to be personally applied and is therefore amenable to controlled variation.

The design in stencilled work is not limited to one

unit, and is not subject to hard and fast rules, the plates being of a size convenient to handle. Alternate units, or a series can be employed, the interest, apart from colour and subject consisting mainly of contrast in detail, and in the individualism expressed.

Mechanical Production, Printed and Woven

In textiles, where such mechanical processes as printing and weaving are involved, the design is restricted to the unit, the repetition of which is infallible both as to form and colour.

Apart from colour, the surface interest consists of suggested or actual contrasts of texture, the result of veining and striating leaves and flowers or of patterning forms or backgrounds with smaller details.

Needlework

Needlework, being a personal performance, has no such mechanical restriction; the design can, and should be, complete within the area, and the expression perfectly free. Beside Design and Colour, the surface interest is that of contrast in the different textures resulting from the various stitches, and the employment of darning, knots, laid-work, etc.

Appliqué

In Appliqué work, interest is imparted by the mass effects enriched by embroidery, the large shapes entailing detail of the inhabited variety to keep them from puckering. In all needlework the effect is due to some extent to light and shade, particularly in Appliqué, where a corded edge is employed.

No. 257. Needlework, contrasting effect of various stitches.
(Photo: V & A Museum).

Lace

In Lace, the interest consists solely of textural contrast, not only in the treatment of the various details, but in the patterning of intervals due to the necessary fillings. Design may be complete, or a repeated unit, according to the purpose and variety of lace.

No. 260. Wood Inlay, Geometric arrangement.

Wood Inlay

Design for Inlays in Wood-work may be free in expression, or a unit, at discretion. The latter variety frequently takes the form of lines spaced with regard

No. 261. Wood Inlay.

to good proportion, forming borders, chequers and geometric shapes of various kinds. Floral or other forms simple in character and profile may be used, the design being expressed in silhouette.

No. 262. Wood Inlay. Simple silhouette depending on natural colour.

Intarsia

In the Intarsia detail of the Italian Renaissance, the inlaid forms were elaborated by surface markings and

graduated effects were obtained by means of hot sand ; but the natural contrast in the varied colour and fibres of the material employed probably form the more legitimate interest in all inlaid work.

No. 263. Wood Inlay. Simple silhouette.

Veneer, Marquetry

In Veneer work and in Marquetry, where the work is quartered and juxtaposed, the interest consists in the patterning of the figured woods, particularly when these are arranged to form reciprocal shapes.

Boule Work

The interest of Buhl or Boule work, an inlay of metal employed in the French Renaissance in the decoration of furniture, often in conjunction with tortoiseshell, is that of contrast of texture.

No. 264. Italian Intarsia. Forms elaborated by incised lines.

In the design, profile or silhouette is the primary consideration, being used :

1. As a form of framing,
2. In angles or centres on table-tops,
3. In panels in furniture :

No. 265. Louis XV Cabinet with Ormolu Mounts.
Marquetry, veneer quartered and inlaid with floral detail.
(Photo: V & A Museum).

No. 266. Boule Work. Period of Louis XVI.

The design can invariably be complete within the area. Coloured grounds are employed as well as tortoiseshell.

Mosaic

Mosaic designs may be complete in themselves or be the result of repetition, according to attitude and purpose, and with regard to variety and colour, only restricted by æsthetic considerations.

No. 267. Boule Work. Period of Louis XVI.

Owing to technical limitations, modelling can only be broadly suggested; therefore forms should be generally in silhouette except when on a large scale.

When employed on walls and vaults, gold is frequently used in the backgrounds. This not only serves to define detail, but affords contrast to the general surface, the inevitable joints in the tessaræ adding also to the interest.

Byzantine Use of Marble

Associated with Mosaic decoration in the Byzantine Period was the employment of marble in shafts of columns and for lining walls by banding or slabbing, frequently quartered, so as to display the markings in reciprocal forms. Such marbles were chosen for figuring and colour, the former in its variety being an important factor in the surface interest.

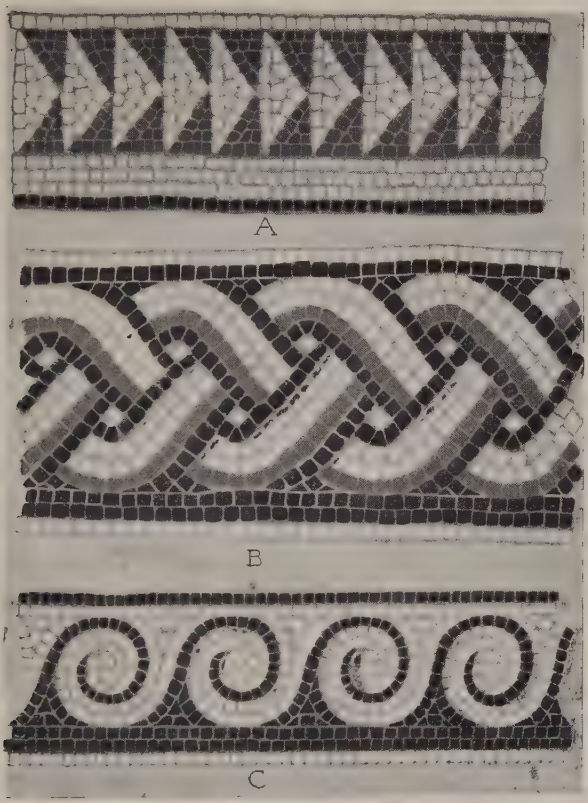
Similar employment of slabs occurs in the treatment of floors, where contrast in colour is the chief consideration. It is sometimes associated with Mosaic of small tesseræ, also in marble, whereas that used on walls and in vaults was frequently of glass.

The foregoing is a broad summary of ornamental expression in the Flat, with the exception of Book Decoration.

Book Decoration

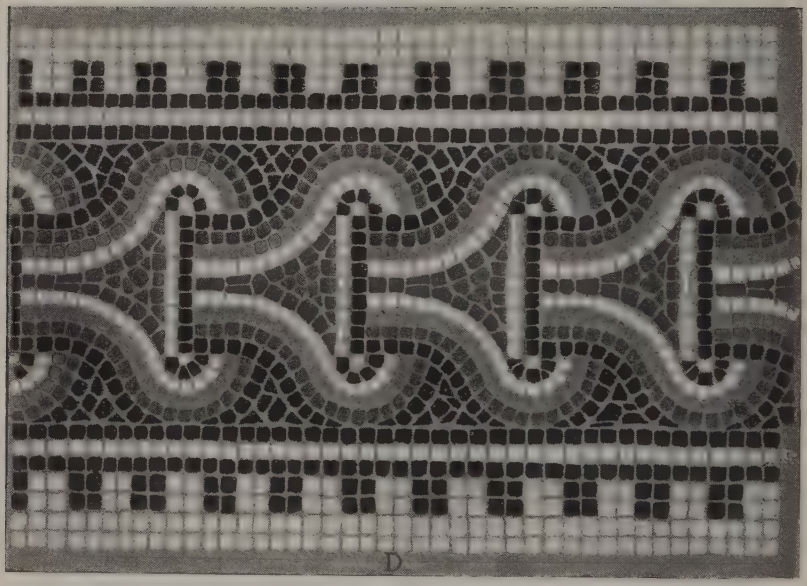
In Black and White, which is chiefly employed, the designs may be in tone or line with suggestion of rotundity or relief; or line decoratively employed, according to subject, or purely decorative.

The same applies to renderings in colour. Designs for covers are controlled by the processes involved, whether printed, stamped or tooled.



No. 268. Mosaic Borders.

A. From Carthage. B. & C. Withington, Gloucester.



No. 269. Mosaic Border, Roman.

No. 270. Roman Mosaic. Woodchester, Gloucester.

No. 271. Roman Mosaic. Treatment in Light and Shade suggestive of relief. (Photo: V & A Museum).

No. 272. Tooled Bookbinding in Leather.
Repetition due to tools or stamps.
(Photo: V & A Museum).

No. 273. Modelled Plaster, shewing relatively large ground area.
(Photo: V & A Museum).

No. 274. Wood Carving. Grinling Gibbons.
Attention devoted to detail with elimination of ground.
(Photo: V & A Museum).

No. 275. Wood Carving. French, Louis XIV.
(Photo : V & A Museum).

Bindings

In the two latter the ornament should be in profile or silhouette. In tooled bindings, repetition of unit or motif is essential, the design being the direct result of available tools.

In such bindings further interest may be imparted by gilding either the detail or by introducing gold as powdering on shapes or backgrounds, or by the so-called inlaying of other colours.

Relief—Economic Result of Method

In Relief ornament, design and character should be the result of technical expression. If considered from an economic point of view, the tendency would naturally be to obtain the maximum effect with the minimum of labour; and this would invariably result, when the decoration is built up or applied to an existing ground as in modelled work, in slight occupation, with comparatively large intervals.

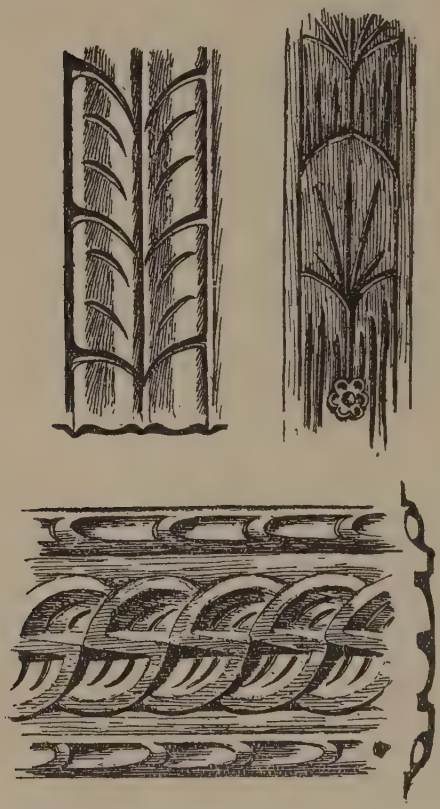
In carving, where the original surface forms the highest relief, and has to be cut back to form the ground, the result would be reversed, the individual worker being more attracted to the treatment of detail than to clearing away uninteresting spaces. Carving, whether in wood or stone, is employed in various decorative positions, and except in the enrichment of friezes or mouldings—when the repeating unit is desirable—the design should be complete in itself.

Desirable Treatment in Carving

The treatment should evidence the direct employment of the tool, any attempt to efface or soften will

result in loss of character and suggest the plastic effect incidental to modelling.

For convenience, and possibly in the absence of more desirable examples, students are often allowed in their early attempts at carving to reproduce casts of plastic origin. This is undoubtedly pernicious, as the model is probably unsuitable, and the student is thereby biassed. Examples should be selected in which the characteristic treatment is sufficiently evident if a true and thorough appreciation of the craft is to be instilled.

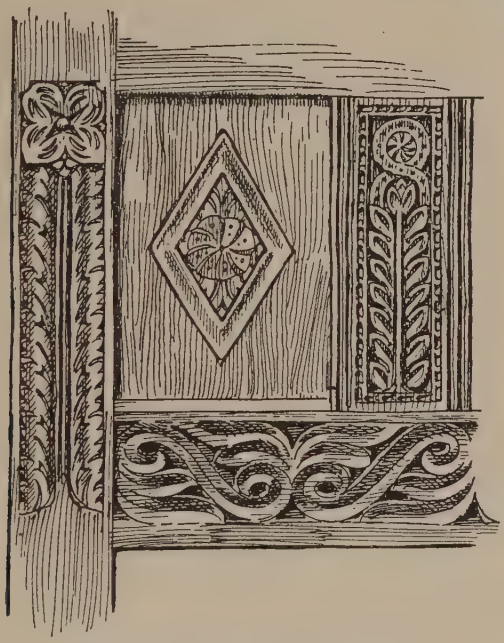


No. 276. Simple Jacobean Wood Carving. Direct gouge work.

In the design—which may occupy or fill the shape and can be symmetrically arranged on a central axis, or balanced—the effect is due mainly to Light and Shade. Further interest may be imparted by the sectional form or modelling of the details, groovings, striations or other textural suggestions.

Backgrounds

The employment of punched grounds in carved work is to be deprecated as mechanical in effect. Sufficient interest is obtainable by the process of cutting back,



No. 277. Wood Carving. English.
Late Elizabethan or Early Jacobean.

in the perfect levelling of which the carver need not be too concerned. Suspiciously uniform grounds are suggestive of work fret-sawed and applied.

When carving in wood is in very high relief, it is occasionally, as in the Grinling Gibbons work, built up. This may not be a matter of great objection if properly attached, and the grain of fibre matched, but is, however, better avoided.

Reproduction Processes

Modelled ornament is generally employed in reproduction processes, such as moulding of Terra-cotta, plaster, etc. The design can be free in expression, or a unit of repetition according to requirement.

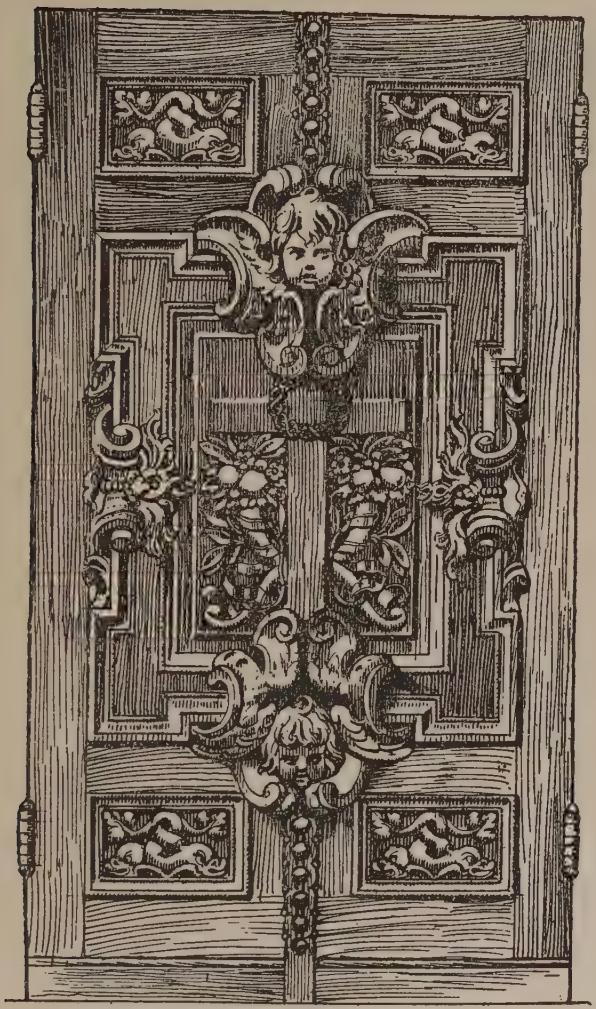
The detail which is applied to an existing surface is invariably more open, with a resulting display in the background.

The surface interest consists of contrasts in texture, the result of veining, striating and patterning forms. The relief is not, as in carved work, controlled by an original surface, but, being built up, is susceptible to greater variation. Mouldings may be broken by lapping and overlapping details, and though in some traditional work similar treatment occurs in wood-carving, it must be remembered that such details are too suggestive of, and more proper to, plastic renderings.

In economic moulded work undercutting of details should be avoided as this is only possible in piece or elastic moulds. In wood-carving, however, there is no restriction.

Metal Repoussé

Freedom and variety in detail are possible in Metal Repoussé, but as the light and shade is considerably modified by the nature of the surface, the design which is plastic in character incidental to method of working, should have regard for silhouette or profile display, and not be dependent upon surface modelling. The principal factor in effect is Light, both direct and reflected. Surface interest is the result of imparting by chasing various textures in striations or matt.



No. 278. Wood Carving from Fontainbleau.
Early French Renaissance.

Excellent effect can be obtained by outlining with the tracing tool, leaving the surface of detail plain and uniform in height, and imparting texture with the matt tools in the intervals for the sake of contrast.

No. 279. Economic Wood Carving.

The method of working is simple, entailing manipulation from the face of the metal only, and the detail is left in slight relief by the ground being set back in the texturing. This treatment is only suitable where the ornamented area is enclosed. When the design is freely displayed on a ground without enclosing lines, it should appear in relief, the result of raising from the back; and texturing should be employed only on the details in contrast to the smooth ground. As in all applied work, the economic result is slight occupation.

No. 280. Oak Box decorated with flat carving. Icelandic. 18th Century.

Metal, Cast

Cast metal is produced in sand moulds, a model or pattern being employed of which the casting is a reproduction. The

No. 281. Repoussé Work. A. Pattern defined by tracing tool and interest imparted by different textures of ground. B. Pattern raised from back, and defined and enriched by tracing and matt tools on face, affording textural contrast with plain ground. (Photo of A. V & A Museum).

pattern may be originally modelled or carved, and this determines the character of the metal result, though it is a matter of indifference when the necessary finishing is by turning or filing.

No. 282. Wrought Iron, simple form enriched by use of punches.

Castings in iron are left as they leave the mould, but in bronze, except in Cire Perdu casting, the surface has to be entirely worked down. In common work, however, this is accomplished by means of small files or riffles and by chasing the more elaborate details.

Character of Cast Work

As a matter of opinion it is consistent that the

No. 283. Gondola Prow. Wrought Iron, comparative flat surface enriched by chiselled work.

No. 284. Surface Interest in Metal.

A. Blade of State Battle-axe, damascened with silver, Indian.
B. Blade of Khyber Knife, engraved, Indian.
C. Hilt of Tulwar, damascened with gold, Indian.
D. Vase, Bidri Ware, pewter inlaid with silver, Indian.
E. Scabbard End, gold inlay, Indian.
F. Ornament on Gauntled Sword, damascened with gold, Indian

character of cast work should be plastic, and if the original pattern is the result of carving, care should be taken to impart the desired feeling, the pattern being merely a means to the end.

Much depends upon the final finish ; if this is to be bright, surface modelling should be a secondary consideration to surface interest resulting from contrast of textures. It, however, becomes of proportionate importance as the work is dull or toned, and therefore is subject to the ordinary conditions of Light and Shade.

CHAPTER VIII

MYTHOLOGY AND SYMBOLISM

TRADITIONAL ornament is replete with forms and details that were originally invested with meaning, though in the later employment this was disregarded, being used for the sake of variety and their æsthetic value.

Such details as the festoons, wreaths, tripods and altars as appear in the Renaissance ornament were originally associated with victory, sacrifice and religious observance.

Early Symbolic Ornament

It has previously been suggested that the early employment of natural types was symbolic in the Egyptian treatment of the Lotus and Papyrus, which, providing material for woven fabrics and for manuscripts, were therefore esteemed.

These details associated as they frequently are with the zigzag line, are symbolic of the fertilizing of the land resulting from the periodical inundation of the Nile.

The date-palm on account of its value as food was symbolised by the Assyrians as the tree of life in the fronding Anthemion form, which undoubtedly influenced the later ornament.

The Palm-tree was said to grow faster for being weighted down, hence it was the symbol of Resolution

overcoming Calamity. The oriental belief was that it sprang from the residue clay from which Adam was formed.

Symbolism, universally understood as it undoubtedly was in early times, implied a universal interest on the part of the individual and the general community. The absence of this interest in more modern work is to be deplored.

A common example of the employment of such symbols, which however is fast disappearing, is the barber's pole, the gilt knob of which represents the basin, and the pole the staff held by the patients in the operation of venesection. The painted spiral stripes are to indicate the respective bandages, one for twisting round the arm previous to blood-letting, the other for final bindings.

Customs

The modern custom in salutation of shaking hands or raising the hat is a survival—the former of the ancient custom of adversaries in treating of a truce taking hold of the weapon hand to ensure against treachery—the latter of the removal of the helmet when no danger is nigh, to show that one can stand unprotected.

The custom in Courts-martial of placing the sword hilt or point towards the accused, according to judgment, is also a survival. In ancient times, if a stranger on arrival held the point of a spear forward, it denoted a declaration of war ; but if carried with the point behind, he came in friendship and peace.

There are opportunities where the decorative element

could be such as to embody or vindicate local character or purpose, but with the decadence of symbolism much of our modern ornament fails to interest, because it has no meaning that is understood or can be appreciated.

Origin of Mythology

Mythology had its origin in the superstitions of primitive man, to whom the gods were forces of Nature improperly understood, and to whom Light and Darkness would appeal as beneficent or malignant forces according to how they affected his personal comfort.

The uncontrollable nature and effects of these in the absence of more modern conditions would naturally tend toward belief in Fatalism and Destiny, which eventuated in mythological expression.

Nature Myths

Early myths had their origin in processes of Nature, or aspects of natural phenomena which, to the primitive mind, appeared supernatural. Inducing a belief in powers invisible, infinite and divine, and in future existence. With this belief these aspects were eventually invested with personality.

An example is the Greek tradition of Kronos, a native myth accounting for the separation of Heaven and Earth. Uranus (Heaven) husband to Gæa (Earth) kept his progeny Oceanus (sea) Hyperion (Sun) and Kronos (Light and Dark, or Time) in the hollows of the earth, in darkness. Kronos revolted, and forcing Uranus away, kept him for ever at a distance.

A New Zealand parallel is the Maori Tree or Forest

god Tani, who effected a similar severance by lying down on the earth and pushing the Heavens away with his feet. The native belief being that man was a tree upside down, his hair forming the roots and his legs the branches.

Light and Darkness

Some myths appear in many forms, associated with rising and setting. The Greek rendering is that Kronos (Time) married Rhea and devoured all his children at birth except Zeus (Air), Poseidon (Water), and Hades (the Grave), which three Time cannot consume.

An earlier tradition is that Kronos devoured all his progeny except Zeus, for whom a stone wrapped in swaddling clothes was substituted and promptly swallowed, the child Zeus being secreted.

On arriving at adult age, Zeus compelled Kronos to disgorge, first the stone, then the other children in succession. The literal meaning being that of night covering up or swallowing the world, the disgorging being the sunrise.

Melanesian Myth

An interesting variant is the tradition of the Melanesian hero Qat and his brothers, who lived in perpetual day. Qat heard of Night, and setting forth in search, was successful in his quest. On his return he told his brothers to sit quite still, and when they felt something in their eyes to take no notice but keep quiet ; thereon they fell asleep. When Night had lasted long enough, Qat took a slab of red obsidian and cut the darkness and Dawn came out. A tradition reminiscent of the

" dustman " or the " sand-man " of the nursery, though the slab of red obsidian is a touch both poetic and symbolic in its suggestion.

Darkness as a Devouring Monster

In the early myths, Night or Darkness is invariably a malignant influence or a devouring monster threatening the earth or the sun, *e.g.*, the Scandinavian Wolf Fenrir or Fenris, the Python slain by Apollo, and in Oannes the Chaldean sea-god devoured or destroyed by darkness.

Oannes, who is represented in composite fish and man form, according to tradition lived with mankind during the day to instruct them in the Arts and Sciences ; being immolated at night and re-incarnated at dawn.

Season Myths

In the Scandinavian tradition of Baldur, the god of Peace, which bears some resemblance in respect to immolation and re-incarnation, the god was killed by the blind Hoder at the instigation of Loki. By order of Odin, everything that sprung from earth, air, fire and water was forbidden to injure Baldur, but the mistletoe, not being included, was made into an arrow and shot at random. It effected his death, but by general request of the gods, he was restored to life.

Baldur is really a season myth, symbolizing the death of the sun at the end of the year, with the resuscitation in the Spring. So also is the tradition of Persephone abducted by Pluto, and allowed to revisit her mother, Demeter, at the dawn of Summer. Another parallel is the story of Orpheus and Eurydice.

Sun Myths

Of myths associated with the Dawn there is the tradition of Apollo and Daphne, where the story of the nymph being chased by the god and transformed into the tree symbolised the early dawn dispersed by the Sun, or the effect of the growing power of the Sun on vegetation.

Similar in idea is the tradition of Wabun, son of Mudjekee-Wee, the North American Indian Apollo, who chased Darkness with his arrows over hill and valley, waking the villagers, calling the Thunder and bringing the morning. He married Wabung Annung, whom he transplanted to the Heavens, where she became the Morning Star.

Associated also with the sun is the myth of Clytie, a water nymph, who for unrequited love of Apollo, was changed into a sun-flower, which traditionally still turns towards the sun, following him through his daily course.

Belief in Natural Phenomena

It has already been suggested that in primitive times intentional and conscious life was ascribed to a host of natural objects and phenomena, indications of which survive in the common speech of the present day. Thus we speak of inanimate things as if they had consciousness and intelligence. We say the Weather is good or bad, the Wind furious, the Sea treacherous, the Seasons inconstant or the Earth thirsty. It is also customary to speak of the " head " or " foot " of a mountain, and " arm " of the sea and the " mouth " of a river or a cave.

Conscious action is suggested by such statement as the wind " whistles," " howls " or " moans " ; the torrent or river " murmurs " ; the fields " smile " or the sky " threatens."

These afford undoubted evidence of early belief in personality and consciousness—a belief originally simple, but later becoming more complex, monotheistic in the earlier form, developing into polytheism in assigning different deities to the various elements.

Greek and Roman Deities

In Greek and Roman mythology there are twelve deities, six gods and six goddesses.

Greek.	*Gods.*	*Roman.*
Zeus.	The air or the living one (king)	Jupiter.
Apŏllon.	,, Sun God.	Apollo.
Arēs.	,, War ,,	Mars.
Hermes.	,, Messenger.	Mercury.
Poseidon.	,, Sea God.	Neptune.
Hephaistos.	,, Smith.	Vulcan.
	Goddesses.	
Hera.	Queen.	Juno.
Demeter.	Tillage.	Ceres.
Artemis.	Moon-Hunting	Diana.
Athenē.	Wisdom.	Minerva.
Aphrodite.	Love and Beauty.	Venus.
Hestĭa.	Home life.	Vesta.

These are the original twelve, but four others are referred to as follows :

Dionȳsus.	The God of Wine.	Bacchus.
Eros.	The love lad.	Cupid.
Plutōn.	God of the Inferno.	Pluto.
Kronos.	Time.	Saturn.

Scandinavian Mythology

In the Scandinavian mythology Ymir the personification of Chaos or first created being, was produced by the antagonism of heat and cold, nourished by the four milky streams from the cow Audhumla. While he slept a man and woman grew out of his left arm, and sons from his feet, from whom was formed the race of Frost Giants.

Odin and his two brothers slew Ymir and threw the carcase into the Ginnungagap, or abyss of abysses. The blood formed the waters of the Earth ; the bones the Mountains, the skull the Heavens ; the teeth, Rocks ; the brains, Clouds ; the hair, plants of every kind ; and the eyebrows, a wall of defence against the Giants.

As in the Greek and Roman mythology, the Celestials or Æsir of the Scandinavians were twelve in number, the chief being Odin. Each god dwelt in his mansion in Asgard (God's Ward), situated on the heavenly hills between the Earth and the Rainbow.

The other gods or Asa were :

Thor.	God of Thunder and War.
Tyr.	„ „ Wisdom.
Baldur.	„ „ Sun.
Bragi.	„ „ Eloquence.
Vidar.	„ „ Silence.
Hodar.	The Blind.

Harnod.	The Messenger (divine intelligence)
Odur.	
Loki.	God of Mischief.

All these were sons of Odin—the youngest being Vale. The mansion of Odin was Gladsheim—that of Frigga, his wife Fensalir. Baldur's was Broadblink or " Vast Splendour."

The Refectory, or Hall of the Æsir, was Valhalla, in which the spirits of warriors were entertained by the twelve Valkyries (armed and mounted nymphs), who in battle selected those destined for death.

Supreme were the " Mysterious Three " called Har the Mighty, the Like Mighty and the third person, who sat on the throne above the Rainbow.

The Scandinavian Fates or Nornir, representing the Past, Present and Future, sat spinning the web of events of human life beneath the ash tree Yggdrasil, whose roots ran in three directions, one to Asgard, one to the Frost Giants, and the third to the underworld. Beneath each was a fountain of wonderful virtue.

In the tree from which drops honey sit an eagle, a squirrel and four stags ; lying at and gnawing the root is the serpent Nithhöggr, while the squirrel Ratatösker runs up and down endeavouring to cause strife between the serpent and the eagle at the top.

Rising and Setting Symbolised

The Egyptian Horus, the hawk-headed son of Osiris and Isis, symbolised the sun's path, or the rising sun ; Ra the noon-day and Osiris the setting.

Osiris, the husband of Isis, is represented by the moon, and by an eye at the top of fourteen steps and symbolises any waning luminary, as the setting sun or waning moon. Isis, to whose worship the sacred cow was dedicated, symbolises rising, becoming visible, and is represented with two horns on a stem rising from her head.

The ancient Egyptian indulged in the supposition that the swelling of the Nile at the annual innundation occurred on the anniversary of the death of Osiris, and was due to the tears of the lamenting Isis.

Endymion in the Greek tradition is the setting sun, with whom the moon is in love. He was visited and kissed every night by Selene on the Latmian Hills, where he was condemned to sleep, and eternal youth.

Winds Personified

That the Winds as natural forces should become personified is easy to imagine, as in the Roman Æolus, father of Zephyr, the West wind. Aquilo or Boreas, son of Astræus a Titan, and Eos (morning) was the North Wind, and lived in a cave on Mount Hermus in Thrace. The other winds were Notus, (South), Eurus (East), Corus (North-West), Argestës (North-East), Volturnus (South-East), and Aferventus (South-West).

The natural phenomenon of the Echo is embodied in the poetic tradition of a nymph, who, on account of unrequited love for Narcissus, pined away till only her voice remained.

Predestination

To the primitive mind disaster or affliction from quite natural causes would be attributed to the wrath

of some deity, even though there was no personal offence. This superstition would find expression in a belief in predestination or fatalism, as is evidenced in the tragedies of Orestes and Œdipus, and to a certain extent in the protracted return of Ulysses from Troy.

The Fates

The Greeks and Romans believed that birth, events and death were arbitrarily controlled by the Parcæ or Fates, of which there were three—Clotho, who held the distaff—Lachesis, who spun the thread of life and Atropos who bore the shears and cut the thread when life was ended.

Thus Clotho presided over birth and drew the thread of life from the distaff, while Atropos presided over death, Lachesis spinning the thread between life and death.

The Harpies and Furies were also responsible agents in disaster. The former were vultures with female heads and breasts, living in an atmosphere of filth and stench and contaminating everything they came near. Their names (Ocypeta (rapid), Celeno (blackness), and Aello (storm) indicate that they were the personification of tumult and whirlwind. Equally arbitrary were the reputed acts of the Furies, of whom there were likewise three, their names being Tisiphone (avenger of blood), Alectro (implacable), and Megæra (disputatious).

Propitiation and Sacrifice

Propitiation and sacrifice, to avoid such visitation would be the natural outcome, and the various traditions

are probably records of actual occurrences, embroidered by poetic imagery and miraculous conditions.

In later tradition, cause or justification is indicated as in the story of Iphigenia, daughter of Clytemnestra and Agamemnon. The latter having offended Artemis by killing her favourite stag, vowed to sacrifice the most beautiful thing that came into his possession during the next twelve months. This was an infant daughter, but the sacrifice was deferred till she reached womanhood, when the combined Greek fleet arrived at Aulis on its way to Troy. Calchas declared this would be wind-bound as long as the vow remained unfulfilled, but Artemis interposed at the last moment by spiriting Iphigenia away from the altar and leaving a hind to suffer in her stead.

A similar story is that of Andromeda, rescued by Perseus from the sea monster sent by Poseidon to devastate the land. The reputed cause was Cassiopeia, mother of Andromeda, boasting of her daughter's beauty, and on appeal to the oracle the sacrifice was declared necessary to save the country and to appease the offended deity.

Similar instances in Bible history are the vows of sacrifice made by Abraham and Jephthah. The latter has a parallel in the Greek tradition of Idomeneus, King of Crete, who vowed to sacrifice the first being he encountered if the gods granted him a safe return after the burning of Troy. The first person met on landing was his son, who was sacrificed, and in consequence Idomeneus was banished as a murderer.

Early Burial Customs

The ancient burial customs are evidence of an early belief in future existence, and that not only human beings but inanimate objects have souls.

It was considered necessary that the departed should be accompanied not only by his weapons and personal belongings, but also by attendants or slaves, who were immolated so that they could continue their ministrations in the future life.

Taboo

The reverence with which burial places were regarded gave rise to the belief in the spirits of the dead as guardians, and this survives at the present day in the mysterious custom of " Taboo," a Polynesian term which means " consecrated " or " set apart."

It really has a double meaning : to consecrate, and to insure penalty, whereby dwellings are abandoned after the death of their owners in the supposition that they are sacred to the spirits of the departed.

Roman Lares

The Lares of the Romans were domestic or public, the domestic Lares were the souls of the virtuous ancestors exalted to the rank of protectors. They took the form of images like dogs set behind the Entrance, or in the Lararium or shrine.

There were also public Lares, whose province was the protection of streets and roads.

This belief in the dead as guardian spirits accounts for a form of sacrifice in which the victims were buried under foundations, a custom modified in later times to

the sacrifice of animals. It survives at the present day in burying current coins at the ceremony of laying the foundation-stone in public buildings.

Typical Legend

Many of the legends of the Middle Ages associated with Architecture are reminiscent of the early customs of sacrifice in the oft-repeated traditions of demoniacal aid. The story generally deals with some difficult problem in design or construction for the solution of which the architect or builder enters into the usual compact with the evil one, the terms being that the latter party to the contract shall take possession of the first living being that enters into or crosses the structure.

Invariably the enemy of mankind is outwitted, a dog or some other animal being the first to enter, the builder's sense of caution being in every instance greater than his vanity.

Similar in idea was the Hebrew custom of the scapegoat, which also anticipated and symbolised the Atonement.

With the Greeks the cock was not sacrificed, it being sacred to the Sun and Moon, as it announced the hours.

The cock was also sacred to the Goddess of Wisdom and to Æsculapius. Therefore it represented Time, Wisdom and Health, none of which should be sacrificed.

Early Spiritual Belief

Experience due to the involuntary action of the brain in dreaming, when the ordinary laws of time and space are modified could hardly fail to impress the

primitive imagination and suggest the duality of being —physical and spiritual.

In some savage communities at the present day there is a belief that the soul or spirit is absent during sleep and that it would be dangerous to wake the sleeper, as, should he close his mouth, the soul would be unable to return. This belief that the soul should be free to go and come is evidenced in the aperture that has been found in Kist-vaens and other forms of tombs.

Prehistoric Treatment of Epileptics

Prehistoric skulls have been found bearing evidence of the operation of trepanning, arising from the belief that the patient was possessed by devils which would be released by making a hole in the head. This treatment was apparently applied to epileptics. With the primitive instruments and ignorance of anæsthetics in that remote period it could hardly have been a pleasant experience.

The Greeks and Romans believed that the souls escaped with life through the aperture of the death wound, and the Moslems had a superstition that it was necessary in strangling a victim to relax the cord before death occurred, so as to allow the soul to escape.

Even to modern times it is customary to open a window of a death chamber.

Prohibition

A form of taboo in legend and tradition is prohibition either as to act or question.

The Biblical instance of Lot's wife has its parallel in Eurydice, wife of Orpheus, who, killed on her

wedding night, was redeemed on condition that Orpheus should not look back till she had reached the upper world. Forgetting the prohibition, he turned to see if she were following, and Eurydice was instantly caught back into Hades.

The story is a poetical rendering of the capture of Eurydice by Aëdonius, King of Thresprotia, called Pluto, on account of his cruelty. Orpheus obtained her return on conditions that were not fulfilled; therefore he lost her a second time.

The prohibition of Persephone to Psyche to look at the casket of Divine beauty until she reached the upper world and the consequence, is similar in idea, though the sequel is the result of feminine curiosity and devotion.

As examples of the forbidden question, the stories of Cupid and Psyche and Lohengrin may be quoted; in both instances curiosity as to name and origin was interdicted. Disregard of the command resulted in abandonment.

A more modern tradition is that of Melusina, who for her sins was condemned to become every Saturday a serpent from her waist downwards. She married Raymond, Count of Lusignan, and made him vow never to visit her on that day.

Excited by jealousy, he hid himself on one of the prohibited days and saw her in her transformed state, whereupon she was obliged to quit, and wander about as a spirit till the day of doom.

Belief in Magical Qualities.

The ancient belief in the supernatural was not confined to the spiritual world, but also extended to

inanimate objects which were sometimes invested with magical qualities, as for instance, the Helms of Perseus and Pluto, which rendered their wearers invisible. The same virtue was possessed by Albric's cloak, Tarnkappe, which also invested the wearer with the strength of twelve men ; by means of which, and the invisibility conferred, Siegfried was able to overcome Brunhild, the martial queen of Iceland.

The Shirt of Nessus

More malignant in character was the Shirt of Nessus as the source of misfortune from which there was no escape. According to tradition, Nessus the Centaur, while conveying Dejanira across a river, was shot by Hercules for his rudeness. The dying Centaur bequeathed his tunic to Dejanira, assuring her that to whomsoever she gave it, they would love her exclusively. Believing this, she presented it to Hercules, who on wearing it was subjected to such torture that, being unable to remove the garment, he immolated himself on a funeral pyre.

Similarly malignant was the poison-cloak sent as a present to Arthur by Queen Morgan la Fay.

Swords

Swords at all times have been possessed of magical qualities, but the belief possibly indicates stages of development. The description of the sword of Perseus as a form of diamond, suggests that the story had its origin in the Stone Age. It is reasonable to presume that the later improvements were such an advance that they suggested supernatural origin ; *e.g.*, the sword of

Siegfried, the name of which was Balmung or Gram (literally " grief ").

The sword was reputed to be made by Wieland Smith, the Vulcan of the Scandinavians. To test the blade he tried it on Amilias, a brother smith, cleaving him through helm and armour down to the waist, but the cut was so fine that Amilias was not aware that he was wounded until he attempted to move, when he fell in two pieces.

Arthur's sword Excalibur (liberated from the stone) is a later development, as the magical property was in the sheath, which rendered the wearer immune from injury. Arthur's undoing was the result of losing the sheath, though he retained the sword.

Invulnerability

Associated with this is invulnerability, variously bestowed or acquired. In the tradition of Achilles, he was immersed in the river Styx by his mother Thetis, but the immersion did not extend to his heel, in which he received his mortal wound from the arrow of Paris.

Jason was rendered invulnerable in his battle with the giants that sprang from the sowing of the Cadmean teeth by being anointed by Medæa with the Promethean unguent.

Siegfried, the horny, made himself similarly proof from injury by bathing in the dragon's blood, but one spot on his back, where a linden leaf had stuck, escaped. Through this only vulnerable spot he met his death, being killed by Hagan the Dane while drinking in a pool.

This probably is a poetic allusion to early employment

of defensive armour, in which the back, as compared to the front, would be unprotected.

Belief in Numbers

Certain numbers have at all times been invested with mystic significance, *e.g.*, "Three" the "perfect" number, expressive of Beginning, Middle and End; also symbol of Deity. An earlier term of Trinity is Triad, and almost every mythology has a three-fold deity.

That of the ancient Greeks consisted of Zeus, Apollo and Aphrodite, the Egyptian being Osiris, Iris and Horus. The Romans believed the world to be under the rule of three gods—Jupiter (Heaven), Neptune (Ocean), and Pluto (Hades). The first has three thunderbolts—Neptune, the Trident, and Pluto, Cerberus, the triple-headed dog.

Three in number also were the Fates, Furies, Graces, Harpies and Sibylline Books. In the underworld the three judges of hell were Rhadamanthos, Minos and Æacos.

Muses

The Muses were three times three as follows:

Calliope.	Epic Poetry.
Clio.	History.
Melpomene.	Tragedy.
Euterpe.	Lyric Poetry.
Urania.	Astronomy.
Terpsichore.	Dancing.
Polyhegmnia.	Religious service.
Erato.	Erotic Poetry—Geometry.
Thalia.	Comedy.

The world is compounded of three elements—Earth, Water and Air.

Man also is three—Body, Soul and Spirit ; and the kingdom of Nature—Mineral, Animal and Vegetable.

There are three Christian Graces—Faith, Hope and Charity, and three enemies of mankind, the World, Flesh and Devil.

The number " Four " symbolises the quarters of the World—the Winds—the Gospels—the Evangelists and the four sacred Rivers.

" Five " signifies the Cross and the Five Wounds.

" Seven " has also been regarded as a mystic number, as in the Days of Creation, the days of the week, the Spirits before the Throne, the Ages in the life of man, the seven-armed candlesticks of the Hebrews ; the sleepers of Ephesus ; the champions of Christendom and the Wonders of the world.

Sacred Trees and Flowers, etc.

Certain flowers and trees were in ancient times dedicated to the Deities.

The cornel cherry tree and the laurel were sacred to Apollo ; the Cypress and Maidenhair to Pluto ; the Dittany to the Moon ; the Lily to Juno ; the Myrtle to Venus ; the Narcissus and Poppy to Ceres ; the Oak to Jupiter ; the Olive to Minerva ; and the Vine to Bacchus. The Laurel wreath was given to the victor in the Pythian games. The victor in the Olympic games had a wreath of wild olive—of green parsley in the Nemean games, and of dried parsley or green pine in the Isthmian games.

The Ancients believed that the laurel communicated

the spirit of prophecy and poetry; hence the custom of crowning the Pythoness and poets. In modern times the laurel is a symbol of Victory and Peace.

The Olive, sacred to Pallas Athenē, was anciently a symbol of peace, an olive twig in the hands of kings, as represented on medals indicating a peaceful reign. The Palm also symbolised Victory, and in Christian Art is generally borne by the martyr—indicating victory over Death. The Lily—which, according to tradition, sprang from the repentant tears of Eve as she went forth from Paradise—is the emblem of Chastity, Innocence and Purity and is associated with representations of the Virgin. The Daffodil or Lenten Lily, which it was customary to plant on graves, was once white, the tradition being that Persephone, daughter of Demeter, delighted to wander about the flowering meads of Sicily. One springtime she tripped over the meadows, wreathed her head with wild lilies and, throwing herself on the leaves, fell asleep. Pluto, god of the infernal regions, fell in love with her and carried her to the nether world. At his touch the white flowers changed to a golden yellow.

In Christian Art the apple is symbolical of the fall of man, and represents original sin; the rose symbolises Christian ecstacy, the Pomegranate (generally burst open with the seeds displayed) is the symbol of the future life and immortality. The vine and ears of corn are symbols of Christ, and the Wine-press an emblem of the Passion.

The Passion-flower is emblematical of the Crucifixion—the leaf symbolising the spear; the anthers, the five wounds; the tendrils, cords or whips; the

column or oviary, the hammer; the three styles, nails; the fleshy threads within the flower the crown of thorns, and the calyx, the nimbus. The white tint indicates "purity," the blue "Heaven," and the flower keeping open three days symbolises the three years' ministry.

Sacred Animals

Animals were also dedicated to special deities, the wolf, gryffon and crow being sacred to Apollo; the dragon and panther to Bacchus; the stag to Diana; the serpent to Æsculapius; the deer to Hercules; the heifer to Isis; the eagle to Jupiter; the peacock and lamb to Juno; the dog to the Lares; the horse and vulture to Mars; the cock to Mercury; the owl to Minerva; the bull to Neptune; the dove, swan and sparrow to Venus; and the lion to Vulcan.

The lion also is the emblem of the tribe of Judah and is symbolical of the Resurrection. According to tradition the lion whelp is born dead, and so remains for three days, when the father breathes on it and it receives life.

Evangelist Symbols

Mark, the Evangelist, is symbolised by a lion, because he begins his gospel with the scene of John the Baptist and Jesus in the Wilderness.

Matthew, whose gospel commences with the humanity of Jesus as a descendant of David, is the only one of the Evangelists represented as a man.

Luke is symbolised by a bull or calf, and John by an eagle—the former because his gospel opens with

the priests sacrificing in the Temple, and the latter because he soars high and begins his gospel with the divinity of the Logos.

In Greek and Roman art the lion's head is used particularly on fountains. The Egyptians employed the lion to symbolise the annual inundations of the Nile, which happens when the sun is in Leo.

The Serpent

The serpent in ancient times was symbolical of wisdom and subtlety, and, considered as a guardian spirit, is depicted on altars. It was also the symbol of Hygeia, the goddess of Health, from the tradition that Æsculapius assumed the form of a serpent during a pestilence in Rome.

In later art the serpent appears as a tempter. The Brazen Serpent of the Hebrews that gave newness of life to those who, bitten by the fiery dragon, raised their eyes to it, is an anticipation of the Crucifixion.

The Dragon

The mythical dragon is a Middle Age symbol of sin in general and Paganism in particular. The Celtic use of the word for "a chief" is the source of the legendary dragon slayer, as a knight killing a chief thereby slew a dragon.

The dragon, which appears as a guardian, as in the garden of the Hesperides, watching the tree bearing the golden apples of Hera, is also a poetic allusion to flood or inundation.

The tradition of the Python and Apollo is an instance of poetic allusion to the power of the sun drying up

the overflow, as also the deliverance of the city of Rouen by St. Romanus from the dragon Gargouille (waterspout) which lived in the Seine.

Poetic License in Tradition

In Art and Literature traditions and legends dealing with probable occurrences have been handed down—in many cases completely transformed—by reason of this poetic license; *e.g.*, the legend of Marsyas the Phrygian flute-player, who, challenging Apollo to a contest of skill and being beaten, was flayed alive for his presumption.

The story is not without its moral, as the flute on which he played was one thrown away by Athenē, and, filled with the breath of that goddess, still discoursed sweet music. The story is based upon the respective superiority of the instruments—the Dorian mode in the worship of Apollo employing the lute or lyre, and the Phrygian mode in the worship of Cebele the flute, the reeds of which grew on the banks of the river Marsyas.

Another example is the tradition of the Danaides, daughters of Danaos, King of Argos, who, fifty in number, married the fifty sons of Ægytos. All but one murdered their husbands on the wedding night, and were punished in the infernal regions by having to draw water everlastingly in sieves from a deep well.

The literal explanation is that the followers of Danaos taught the Argives to dig wells and irrigate the land in the Egyptian manner. The soil of Argos, being dry and porous, resembling a sieve.

The extreme of poetic license is perhaps reached in

the tradition of Geryon, a human monster with three bodies and three heads, whose oxen fed on human flesh and were guarded by a two-headed dog—both slain by Hercules. This is a fanciful account of the defeat of Geryon, who reigned over three kingdoms and had an ally who was at the head of two tribes.

Another fantastic tradition relates that Xerxes inflicted three hundred lashes on the sea, and bound it in chains—a Greek myth based on the peculiar construction of the second pontoon Xerxes employed to cross the Dardanelles. This consisted of three hundred boats, secured by chains to two ships which acted as supporters.

A more modern instance is Cleopatra's pearl, which she is reputed to have dissolved in wine at the banquet, the costliness of which excited the wonder of Antony. It is probable that the pearl was sold either to defray the cost or to provide a bribe for Antony.

Animals in Christian Art

The Dog in Mediæval Art symbolises Fidelity and appears on monuments at the feet of women, signifying affection and faithfulness ; and at the feet of men, signifying courage and magnanimity. When the dog appears on the tombs of Crusaders, it is to indicate that they followed the standard of the Lord as a dog follows its master.

Other animals in Christian Art symbolise respectively :

The Ant.	Prudence.
,, Ape.	Malice, lust and cunning.
,, Ass.	Sobriety.
,, Asp.	Christ, or Christian Faith.

The Bee.	Industry.
„ Camel.	Submission.
„ Cock.	Vigilance.
„ Fox.	Fraud and cunning.
„ Hog.	Impurity.
„ Lamb.	Innocence.
„ Leopard.	Sin.
„ Ox.	Pride.
„ Dragon, Serpent, „ Swine.	Satan and his crew.
„ Lamb. „ Pelican. „ Unicorn.	Symbols of Christ.

The Lamb, which is reminiscent of the Paschal Lamb of the Exodus, appears on Church plate and decorations, and is usually depicted carrying a banner bearing the Cross, sometimes with blood issuing from its breast caught in a chalice.

The Pelican is the symbol of Charity and the emblem of the Atonement. It is generally represented on the nest feeding its young from the flesh of its breast.

The Phœnix, owing to its traditional rejuvenation every hundred years, is the symbol of the Resurrection.

The Dove is an emblem of Peace, Fidelity and of the Holy Spirit.

The Fish was adopted by the early Christians as the symbol of Purity and Faith. It conveys a comparison of the Christian passage through life with the fish passing through salt water still remaining fresh, and is occasionally suggested in the Vesica Piscis, which it resembles in general shape.

Association of Human and Animal Qualities

Such arbitrary creatures as the Sphinx, the Winged and Man-headed Bull and Lion, and the Griffin, were invested with symbolic meaning in the association of qualities—animal and human ; and probably had their origin in an early belief in Totemism.

Totemism

Most primitive communities have superstitious regard for certain animals, as the mythical origin of personal or tribal descent, and appreciation for animal qualities is evidenced, for example, in the belief that to eat hare or any timorous animal would be disastrous, resulting in the transference of timidity to the consumer.

Cannibalism

The underlying idea of Cannibalism is the belief that in consuming part of an adversary his virtues will also be acquired.

The practice in that sense is really a tribute to his superior courage or mentality.

The Lion and Bull were associated with courage and strength, either for protection or menace.

The Serpent, with wisdom, subtilty and cunning. The Eagle typifies alertness and watchfulness as well as speed.

Wings may symbolise rapidity and mobility, or ever-present, as hovering, the bat's wing being potential in darkness. The human element denotes Intelligence, and bird claws—Ferocity.

The Sphinx

The Sphinx in Egyptian Art, always represented in a crouching position, is a combination of Lion body with human head and bust (generally female) and symbolises Intelligence and Power.

The Greek Sphinx, borrowed from the Egyptian, is generally represented in a seated attitude, and invested with wings. It had a different meaning, that of Malignity and Mystery. Probably in allusion to the tradition of the Theban sphinx that menaced the town, until her destruction was accomplished by Œdipus, who solved the riddle that had resulted fatally for his predecessors.

Assyrian Winged Monsters

The Assyrian combination of Winged Lion or Bull with human head, is symbolic of association of strength with courage and intelligence, the wings suggesting mobility or ever-present.

The Gryffon, a Greek creation, was composed of a lion body, with eagle head and wings, typifying not only swiftness, strength and courage, but alertness or watchfulness. It was employed on the Acroteria of the pediments ; alertness being indicated by the forward position of the ears.

The Chimeræ as an emblem of terror and devastation, is in the form of a lion body, the tail being a serpent, the lion mouth belching forth flames. From the centre of the back protrudes a goat's head.

The whole is presumed to embody the idea of a volcanic mountain, the head being the crater, the goat

representing the mountain slopes, and the snake tail the morass at the foot.

The Dragon, compounded of a lizard head and body, bat wings and serpent tail, is a product of mediæval times, probably suggested by the mythological Gryffon. Sometimes the dragon is invested with the legs of a lion, and to testify to its potency for evil, flames are depicted issuing from the mouth.

Pegasus

Pegasus, the winged horse on which Bellerophon rode against the Chimeræ, also used by Perseus in the rescue of Andromeda, is typical of poetic inspiration. Another form of horse is Hippocampus, associated with the chariot of Poseidon or Neptune, in which the fore-legs develop into fins and the hinder part into a fish-tail in harmony with its element.

The Harpy

In all such associations the character is indicated by the various parts employed. The Harpy of the Greeks being a combination of female head, with bird body, wings, and claws, was suggestive of swiftness and ferocity, and was the personification of sudden events.

Sirens

Equally disastrous, but more alluring, were the Sirens (or entanglers) of whom there were three, Parthenope, Ligea, and Leucosia. They symbolised the dangers of treacherous coasts, and were reputed to lure their victims by their beauty and wonderful singing.

Failing to entrance Ulysses, they were doomed to destroy themselves.

The siren is represented in the form of a beautiful woman, but the lower limbs terminate with bird claws, typical of their ferocity. In allusion to their musical attraction, they are occasionally depicted as bearing harps or lutes.

The representation of Triton, the son and trumpeter of Neptune (in which capacity he bears the conch or shell trumpet) as a man with the lower extremities terminating into fish tails, is to embody the idea of ocean. The Dolphin has the same significance.

Pan

A similar combination of human and animal, that of Pan, depicted as a man with the horns and legs of a goat, is the personification of Deity displayed in creation and pervading all things.

Flocks and herds, being the chief property of the pastoral age, were under his divine protection ; therefore Pan was a rural or rustic god.

The Nymphs

To the pastoral age also belong the Hamadryads, the nymphs of the forest trees, in which they lived, dying when the tree died. The leopard skin with which they are often partly draped, is poetically suggestive of such chequered sunlight as would penetrate woodland growth.

Centaur

The Centaur, a combination of male bust with Horse body and legs, was an embodiment of the Thessalonian

horsemen. The Epic sculptures of the Metopes of the Parthenon are illustrative of the conflict between the Centaurs, and the Lapithæ, caused by the rudeness of the former when entertained as guests.

The Circle

The Circle, originally a sun sign, has been invested with symbolic meaning from the earliest antiquity, the general significance being that of Power, or Sovereignty ; a significance which also applies to its employment as the crown, orb and nimbus.

In Egyptian art, the circular disc, orb or globe, is accompanied by two asps, and spread wings as a symbol of ever-present sovereignty with the power of life and death. The same meaning being expressed in the Assyrian version, which is similar in form, but with the bow-string substituted for the asps.

The Nimbus, Aureole, or Halo originally symbolised Power and Authority, not Sanctity, and its employment in Christian art was anticipated in pagan times.

It was adopted by the early Christians to express Divinity, or as an indication of holiness, and is usually in the form of a disc. That of the three persons of the Deity has three rays issuing from the centre, and sometimes is triangular in form.

The Nimbus of the Virgin Mary is circular, nearly always elaborated, but not tri-radiated. Those of saints and apostles are circular, more or less ornamented. The Aureole in the form of the Vesica Piscis is sometimes used to envelop the whole figure.

Symbols of the Trinity

Three circles interlacing or in the form of a trefoil are employed as emblems of the Trinity, as is also the equilateral triangle.

The circle is also the symbol of Eternity, as having neither beginning nor end ; in Scandinavian art it is represented as a serpent.

The orb as a symbol of power may possibly have its origin in the stone or weight, which in ancient times was kept by the tribal chief. To lift this was the test of the youth aspiring to manhood, a custom which is preserved in the Highland games when " putting the stone " is one of the tests of strength.

The Wand a Symbol of Authority

Another symbol of authority is the wand in its various forms of sceptre, mace or baton. This probably had its origin in the strong man's club, a form which is still retained in the official mace.

The sceptre has various forms of terminals, as the Dove, and the open hand, the significance of the latter being authority with power to reward or punish.

The Hand

The hand was a symbol of fortitude in Egypt and of fidelity in Rome—two joined hands signifying concord.

Previous to the twelfth century the supreme being was often represented by a hand extended from the clouds, sometimes open with rays extending from the fingers in token of divine Grace.

The red hand is generally connected with some traditional tale of violence, and is so expressed on the

shield of Ulster. An allusion to the tradition that the adventurer O'Neile vowed to be the first to land in Ireland, and finding his boat outstripped, cut off his hand and flung it ashore.

The Hand is also an emblem of handicraft, when generally an eye is represented in the palm, as significant of eye and hand being in harmonious accord.

The Caduceus

The Caduceus was originally an official wand, and, adorned by the Egyptians with two serpents, became the symbol of eloquence. In Greek mythology wings were added, and it became the attribute of Hermes or Mercury. The tradition being that the god one day came upon two serpents quarrelling, whereon he threw down the staff of authority, round which the serpents twined in peaceful amity.

The symbolism of the caduceus is therefore power, associated with wisdom, the wings meaning rapidity or dispatch, and, as such, is employed as an emblem of commerce.

Thyrsus

A variant of the wand or staff is the Thyrsus of Bacchus, which takes different forms, the early examples being a plain staff entwined with ivy leaves, though later vine leaves were substituted. It also appears in the form of a pine cone impaled on a spear, which may be in allusion to the Greek custom of mixing the juice of the pine or fir (turpentine) with the new wine to make it keep.

It has also been attributed to a strategy of war,

when Bacchus made a successful advance by the ruse of concealing his followers with branches, as in the example of Shakespeare's Macduff. The pine cone being suggestive of a night attack or that the Bacchanalian festivities took place at night.

The Trident

The Trident of Neptune, and the Paddle or Rudder of Triton are also variants of the wand as symbols of authority, and in their separate use, are sufficient to indicate Sea or Ocean.

The Cross

Though the Cross was adopted by the early Christians, like the nimbus it was employed in more remote times. In Carthage it was used for ornamental purposes, but with the Egyptians, it was regarded as a sacred symbol. It also occurred in Greek sculpture on a circle, when it symbolised the four cardinal points.

Surmounted by a circle in the form known as the Crux Ansata, it was sacred to Isis, and stood as an emblem of immortality and life generally.

There are various forms of the cross in Christian art, the Greek cross with four equal arms, signifies the blessing which the great Sacrifice extends equally over the four quarters of the world.

The Latin cross, in which the shaft is longer than the upper arm, sometimes has three steps which signify the triple foundations of Faith, Hope and Charity; the last being the lowest as the foundation of all Christian virtues.

The Latin cross is sometimes furnished with two

transverse arms, when it is known as the Ecclesiastical cross, used by Cardinals and Bishops at Rome. The cross of the Pope has three transverse arms.

The Cross of St. Andrew, or cross saltire, is in the shape of the letter X, and is used as a symbol of martyrdom.

The Tau Cross in the shape of the letter T—frequently used in Byzantine representations of the Crucifixion, is that on which the Brazen Serpent was uplifted; and was also the sign marked on the door-posts at the sacrifice of the Paschal Lamb of the Exodus.

The Cross with the arms bearing leaves or blossom, is symbolical of the triumph of Christianity over sin and persecution. Occasionally it takes the form of a spreading tree. When five red marks or jewels are placed in the centre and extremities they are emblematic of the five wounds.

In Christian art the cross is the symbol of Christ, either in the simple form, or as a crucifix, which in the early renderings was more suggestive of voluntary sacrifice. The realistic treatment of physical suffering belongs to a later period.

It is also in its various forms an emblem of martyrdom that of St. Peter's being in a reversed position in reference to the manner of his execution.

The Pastoral Staff

The cross, invariably with foliated ends, mounted on a staff, is the Crozier of an Archbishop. The staff of a Bishop terminates with a curving head in the form of a shepherd's crook which it symbolises; both being indicative of authority.

Symbols of Martyrdom

Martyrdom is symbolised not only by the palm, and the crown, as indicative of Victory over death and reward, but by the banner of Triumph over death and persecution. Also by the sword, as a symbol of violent death, or by other implements of execution. These are represented in conjunction with the individual martyr or saint, as attributes and as a means of identification.

As symbols personal to Christ, the emblems of the Passion and Crucifixion are proper to the Cross and chalice. Such, for instance, as the crown of thorns, the nails, scourge, whipping-post, ladder, spear, lantern, thirty pieces of silver, etc.

Symbolism of Gems, etc.

In Christian art, gems, metals and colours are invested with symbolic meaning. The amethyst signifies humility, the Diamond—Invulnerable Faith, the Sardonyx—Power, the Sapphire—Hope, Gold represents Power or Glory, and Silver—Purity.

Black represents Grief or Death, Blue—Hope and Divine Contemplation, pale blue—Peace, Christian Prudence or a serene conscience, Green—Faith, Gladness, pale green—Baptism, Grey—Tribulation, Purple—Justice or Royalty, Red—Martyrdom for Faith, Scarlet—Fervour, and glory of witnesses to the Church, Violet—Penitence, and White—Purity, Temperance and Innocence.

Shells on tombstones are allusive to the earthly body left behind, a mere shell of the immortal soul. They

are also used to indicate a pilgrim, by whom they were carried, probably as a drinking vessel or form of spoon.

Torches, either upright or inverted, symbolised respectively Life and Death. When in the latter position the flame is represented as ascending, the significance is Death with hope of the Resurrection. An earlier signification in Pagan art is the bridal torch of Hymen.

Masks

Masks, which frequently appear in Renaissance ornament, are traceable to the Greek employment to symbolise Comedy and Tragedy.

The Medusa head, which occurs on shields and on the Ægis of Athenē, was the emblem of Terror. The tradition being that Medusa, one of the three Gorgons, famous for her hair, set her beauty against that of Athenē. As a punishment, her hair was converted into serpents, the aspect of which was so terrible that any who looked thereon were changed to stone. A fate to which the Gorgon herself succumbed on seeing her reflection in the burnished shield of Perseus.

The Cornucopia, or horn of plenty, another instance of Pagan survival, was given by the infant Zeus to Almathæ in gratitude, with the promise that the possessor should always have abundance in everything desired. The horn being that of a goat from whom the god was fed, invariably accompanies the representations of Ceres.

Symbols of Time

Time is symbolised by the hour-glass and by the scythe. The latter implement, though generally accepted

is more strictly the emblem of Death, which cuts down prematurely. Whereas Time only garners when ripe the sickle would be more appropriate.

Secular Symbols

Besides those enumerated, emblems are used for the arts, sciences, and crafts, and as devices for Guilds and Corporations.

The arts of Painting, Sculpture and Architecture are symbolised by the various implements employed, as are the crafts. Music by the Lyre and other instruments, Literature by the Lamp, Books, and the Owl as the Bird of Wisdom.

Science and mechanics are similarly indicated. Means of transit, by a winged wheel, suggestive of Speed and Progress; trade and commerce by bales of goods and by the Caduceus, and Agriculture by implements, sheaves of corn and fruit.

Trophies

Groups of weapons used in war and hunting have been employed in a decorative manner. This can be traced to the Greek custom of hanging the weapons abandoned by a fleeing enemy on trees, and to the spoils of victory carried in the Roman triumphal processions.

Such trophies of arms and armour appear in sculptured form as decoration to the Roman arches and military monuments. A custom which was emulated in later times in arsenals, public buildings and tombs.

Heraldry

Heraldry, which probably had its origin in Totemism, was practised chiefly for purposes of identification, and was essential in the period of complete armour, which rendered recognition in the ordinary way difficult.

Originally expressed on shields, surcoats and banners, it was employed later on tombs, and became a feature in decorative work. Indeed the display of heraldic devices on gates and entrances, and in chimney-pieces, is quite justified as indicative of ownership. Such details were eventually introduced into ornament for the sake of mass effect and variety.

Heraldry in Design

A very early example of this decorative employment is that of the Lion gate at Mycenæ. Heraldic designs also appear in the later Byzantine and Sicilian tapestries and entered largely into Renaissance ornament. The shield is particularly conspicuous, with its development into the strapwork frame and cartouche forms of the Jacobean and French Renaissance.

It will be gathered from the foregoing that the latter day designers, especially those of the Renaissance, borrowed freely from the past, to which there could be little objection if the employment of such details were justified by conditions.

Symbolism in Modern Art

Unintelligent reproduction is not only retrogressive but a confession of incapacity, and it is desirable to create an interest in the present and to invest modern art—wherever possible—with meaning.

Present Apathy

In this the co-operation of the general public is essential. In the past, as is evident in the simplest utensils, beauty was universally appreciated, but at the present time the large majority are apathetic to æsthetic environment; regarding art vaguely as the production and display of pictures and sculpture.

The present shows a considerable advance on the deplorable taste of the mid-Victorian period, but we have still far to go. The incongruity of domestic decoration and furniture which, unhappily, is too general, is the result of individual selection which is invariably uneducated.

The manufacturer can do much, and the designer may be prepared to do more, but until artistic appreciation is more generally diffused, any progress must necessarily be very slow.

CHAPTER IX

WAYS AND MEANS

THROUGH the medium of sight, interest and emotion are excited by phases of colour and form, varying in individuals according to temperament. The artistic perception and appreciation of these are invariably due to natural faculty, though much may be acquired by intelligent study.

Perception

In most forms of artistic expression the hand is the auxiliary of the eye. Though sensitiveness of touch and dexterous manipulation are essential, these can be acquired by practice. Perception is of paramount importance, and it may be assumed that the artist's vision is more sensitive to appearance and subsequent suggestion than that of the layman.

The interest of the average individual in art is generally that of subject and sentiment. This is probably a more natural and logical attitude than that of the artist, to whom—as a craftsman—the interest is often merely that of technique. These possibly represent the two extremes ; the cultured individual is capable of appreciation of the ideal without consideration of schools and isms.

Many students in their early essays draw rather from an imagined knowledge than from the actual visual aspect—are apt to take forms for granted, to

assume, for example, that an object is round when it is really subtilely polygonal. Theoretically a curve has no existence, being really a combination of straight lines varying in length and direction. Many beginners are unable to approximate even so obvious a form as a right angle, and until their vision and judgment is trained, it is improbable that they can successfully render more subtile combinations. It is the business of the teacher to train the vision so that the perceptive faculties are developed, and instil in the mind of the student that art is only concerned with appearance. Any fact not visually apparent should be ignored.

Accepted Conventions

The whole subject is complicated by convention; thus for convenience, forms are drawn in outline, but these drawings are not representations, and are only recognisable and accepted as such through education and tradition. Drawing in outline is merely to sequestrate a portion of the surface by a line or lines, and can only define at most two dimensions. When shade and shadow are added there is some approximation to the solid in the suggestion of the third dimension. Though these tend to a more lucid explanation, the work remains a convention if colour and atmosphere are rendered in monochrome.

It is generally assumed that appreciation for colour is inherent. That this to some extent is true is evident in the attraction of bright colour to the child and the savage. Subtle quantities and combinations are only appreciated by comparatively few, the faculty for colour being extremely rare.

Influence of Fashion

The average individual is guided as a rule in colour selection by vogue or fashion, though it is the polite custom to concede that the average woman is naturally endowed with taste. This is delicate ground, but the awful and impossible associations evident at times in feminine costume certainly do not justify the courtesy. There are superstitions in colour selection evidently the result of tradition, such, for instance, as red and yellow being suitable for a sallow complexion. The actual effect of these colours being to excite the complementaries, is hardly favourable to the misguided wearer.

The average man is generally more discreet in selection when sartorially concerned. Not that he necessarily possesses more taste, but because he is observant of custom, and moreover, has generally an instinctive dislike to anything pronounced. At times, however, the women-folk take the initiative, and two of the greatest inflictions that men suffer are the selection of their ties and cigars by one of the opposite sex.

In domestic environment the selection is invariably imitative or guided by fashion, and if the prevailing vogue prescribes brown paper as a lining for walls, it is probably adopted. But the choice, however it may be influenced, is made possibly without thought of the furniture and upholstery that is associated.

Harmonious Consistency

The colour scheme should be determined by aspect and by the use of the particular apartment. A sunny room should be treated differently to one with a

north-east aspect, in which an appearance of warmth is desirable. Furniture, too, must be considered, reds being an unsuitable setting for oak as a rule, while mahogany is best associated with delicate greens and greys.

It is a reasonable assumption that the training of the student should result in greater discrimination, and when the exercise consists of representing, it is a matter of careful approximation of colours and values. In original design the harmonious effect depends on the individual, who, in early attempts in colour, jumps at it, being unconscious of any guiding principle.

Natural Suggestion

It would seem that the wealth of colour combination in the various natural aspects apparent to all, would surely influence selection ; that it generally fails to do so is testimony to lack of observation. Nature left alone never makes mistakes, and the colouring in flowers, land, sky, and water, the plumage of birds and other natural phenomena, is always harmonious if seen in original environment. When the balance and correct association is disturbed it is due to human interference, as is evident too often in the work of the landscape gardener and horticulturist.

Colour Scheme

In decoration the scheme may consist of tints or tones of any one colour, and the contrast is merely that of tone ; in other words, of lighter and darker phases. This method of colouring, which is quite suitable in some instances, is fairly safe, as the latitude for error is greatly reduced, but certainly is not courageous.

The problem arises, when the scheme involves the use of more than one colour, and the successful effect depends on judicious association and balance. The simple rule is never to display two only of the primary colours in juxtaposition, the presence of the third being essential to harmonious and satisfactory effect.

This, as a principle, forms the basis of much of the Moresque decoration, in which the details were picked out in blue and red of positive hues, and separated or outlined with gold.

More consideration is required when positive or pure colour is not in request, and the proportions of juxtaposed tints have to be relative. As any tint departs from the full strength of its particular category, so those associated should be proportionately remote.

Respective quantities may vary and one colour occupy relatively a small part of the surface, when to preserve the balance it may be stronger in hue than others occupying adjacent and larger areas. For such contingencies it is impossible to give exact formulæ, as the pigments employed are not always constant. In the case of manufacturers of mixed paints, it is customary to issue samples of colours for the year or season, and they cannot guarantee repeating exactly any colour or tint in subsequent mixing. The same applies where coloured papers and textiles are concerned ; therefore judgment based on principle and experience can be the only guide.

The Primary colours are Red, Yellow and Blue ; admixture of any two of these result in the Secondary colours which form the complementaries of the Primaries not involved. Thus blue and yellow combined

result in green, which is the complementary of red, the complementary of yellow being purple, and that of blue, orange.

Intensity of hue of any colour employed may vary considerably, and this variation should be proportional in other tints associated. Part of the charm of colour often depends on its complexity, in natural aspects due to atmosphere and varied phases of light. Pure colours should at times be avoided, that is, in the sense in which they are obtainable as pigments.

Early Training

Students should have attained some considerable facility in drawing before taking the study of design seriously, though probably part of the early training has dealt with extremely elementary forms leading in that direction. Undoubtedly, too, many enter on this phase of study without adequate preparation, having little appreciation of the underlying geometric construction, not only in design but in all form.

This, on investigation, can always be found, and either the general mass or sub-divisions identified with some simple geometric shape enclosing the more intimate details. Correct approximation and placing are essential to the accuracy and success of the drawing. Too often through lack of training the tendency is to draw detail right away, without the necessary preliminary of determining the mass shapes.

Nature Study

The study of natural form is of paramount importance to prospective designers. Subjects should be

selected as season or opportunity permit, not merely from plant and floral growth, but any form available, animate or inanimate that is suggestive of pattern or susceptible of ornamental treatment.

Students in their early attempts in design invariably find convention a stumbling-block, and in making their studies from nature cannot at first grasp the idea that selection should be exercised, and that only those phases which are favourable to decorative results should be recorded. Design is not concerned with facts or exact portraiture so much as pattern, and only those features and attitudes that are suitable should be dealt with. To perpetuate the ugly and unsuitable is waste of both time and energy.

Aspect and Attitude

In too many instances the first aspect of the subject of study is recorded, even without any regard to natural attitude. It may be a spray of blossom taken by the student from the parent tree or shrub, which is fixed up in any position that comes handy. For this there is no excuse ; the spray should not only be placed consistently, but to the best advantage, the object being to record aspects that are suggestive of decorative development.

In design it is conditional that each individual detail should be primarily effective as a silhouette, surface interest being of secondary consideration.

Any leaf or flower that does not conform should be so arranged as to satisfactorily comply with this condition, and this can easily be achieved by slightly shifting the point of view, as it is generally due to extreme

foreshortening, or perspective that is confusing in appearance.

No. 285. Natural Aspect of Various Leaves.

Those in outline unsuitable without adaptation for ornament. The silhouette versions shew natural aspects that readily lend to decorative purposes.

Points of study to be noted are the stem growth, junctions and angles of branching and articulation of leaves, the difference in development of leaves on main

stem and those on flower stalk, and phases of the flowers. The drawing should be explanatory as far as possible, and any detail not quite clear should be expressed in separate lucid diagrams. When readily accessible, a series of studies should be made of the same plant or growth at differing stages, so as to form a record of the life history and development.

Care should be exercised to arrange the study with its explanatory details on the paper so as to satisfactorily occupy the area, not necessarily symmetrically, but with a view to desirable balance. Those with a natural faculty for design will probably do this instinctively, but the observance is important in developing the sense of arrangement.

Treatment

The drawings, which should be carefully detailed as to form, and intimate detail—in fact diagrammatic—can be in pencil or ink outline, light and shade is generally unimportant, though it may be lightly suggested.

With regard to colour, except in examples of special suggestion, little time need be wasted in still life renderings, though suggestive colour schemes may well be noted, but the drawing should at least be lightly tinted, this serving the double purpose of fixing the pencil lines, and defining the silhouette shapes.

These studies should form material for designs, not at first ambitious, but dealing with single leaves or flowers, and deriving from them details suitable to some form of decorative expression. These can be expressed in flat colour, with or without outline, or further ornamented by treatments suggestive of veining

or striation. The blotching of some leaves during autumnal changes or any natural markings can often be turned to decorative account.

Drawings for Reproduction

Designs in some instances are in the form of perspective sketches, when it is desirable to convey an idea of their final appearance, but as a rule they are expressed as working drawings. This is imperative when the final production is the result of some mechanical production, as in book decoration and advertisement either black and white or in colour. Drawings for these are generally made larger and reduced to the required size by photography, and the blocks for printing made from the photograph.

There is no fixed rule as to size of drawing or reduction, but if the designs are drawn for one-third reduction there will be no material alteration in values when produced. But as the reduction is increased there is a proportionate risk in alteration of values. It is desirable to bear the proposed reduction in mind and to work more boldly or with thicker lines, otherwise the final effect may be thin and weak. In pen drawing, the lines should be clear and distinct whatever their thickness.

For designs in black and white, hot-pressed paper, Bristol board or smooth card are most suitable. The ink should be waterproof, as, if necessary, corrections with Chinese white can be more neatly made. Fine pens, except for very minute work, are not desirable, a Gillott's ladies' fine writing nib yielding as fine a line as is ordinarily required. For some classes of work a

brush will be found more suitable, but care should be taken that all lines—whether thick or thin—are equally black.

Designs in colour for illustration or advertisement, which are to be reproduced by lithography or the three-colour process, can be on card or Whatman paper. The colours employed being transparent or opaque, whichever is more suitable to working and effect. Larger designs for advertisement, such as posters, are usually painted in tempera or opaque colour, and these should be applied as far as possible edge to edge, overpainting being avoided.

Opaque Colour

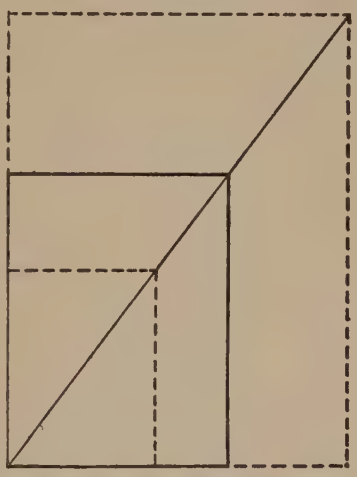
Care should be taken in mixing the colour to the required tint or shade. This requires some experience, as when white forms part of the mixture, the effect when dry is always lighter and colder than when the paint is in the fluid state ; therefore allowance for this should be made. Opaque and tempera colours are not used so fluid as ordinary transparent water colours, and if applied too thin will fail to cover the surface solidly, or dry blotchy. Cartridge paper is not only good enough but more suitable for opaque colour than papers of better quality. Not merely is there no advantage in these, but the texture is an unnecessary embarrassment ; moreover cartridge paper can be obtained in continuous form of good width.

Enlarging and Reducing

When drawings are enlarged or reduced, the linear dimensions and not those of the area are implied ; thus

one half means one half of both width and height—really one-fourth of the area. It is obvious that half the area would be a different proportion, and it is the proportion that is concerned.

Divisional measurement is rendered unnecessary by the diagonal method of proportion. Given a rectangular shape, which has to be reduced or enlarged, a diagonal line should be drawn, and prolonged if the latter, through opposite angles. A line parallel to either the vertical or horizontal can be drawn and returned at a right angle where it intersects the diagonal, and regardless of any dimensions, this will ensure the exact proportion of the original rectangle.



No. 286. Diagonal Method of Enlarging or Reducing. Solid line shews given size.

It is obvious that such designs as the foregoing should be complete, and both in drawing and colour a perfect anticipation of the painted result, owing nothing of their effect to mechanical reproduction.

Textiles

In designs for printed and woven fabrics, though the process of production varies, it is still necessary that the drawing be complete in the technical indications. Otherwise the reproduced version may suffer, or at least not fulfil the intention of the designer, and

it follows that the drawings should be concise in every detail, even to the colour effect desired.

The drawings are usually to the full size in most printed fabrics. The design is not reproduced by any mechanical process, the blocks or rollers used in printing being cut by hand from a transferred tracing made from the original. Hence the importance of exactitude in joining and dimensions.

In some instances the whole of the pattern is cut in relief in the wood, but in others, lines are the result of narrow strips of ribbon-like brass embedded in the surface of the block or roller. These have their influence on the design, as in the former method of production the lines can vary in thickness and can be invested with greater interest than the employment of the wire can give. The metal results in a hard line of unvarying thinness.

Drawings for printed and woven fabrics are usually in opaque colour, and each tint employed should display a defined edge, graduated effects being only technically possible by means of tapering lines or stipple. Each distinct colour or tint involves separate printing ; therefore as it is economically desirable to attain the best effect with the minimum cost, the utmost should be made of the colours employed.

Wallpapers

Wallpapers as a rule are printed in opaque colour, but in textiles, when the colour is transparent, more elaborate effects are possible by overprinting or superimposing one colour on another. In woven fabrics similar effects can be obtained by judicious manipulation

of the shuttles, but in all cases it should be borne in mind that a working drawing is necessary in which the details are clearly indicative of the final result.

Designs that have to be realised by some form of handicraft require the same care and concise regard to detail, though the drawings need not be so complete as to appearance, and may be to scale or drawn full size according to condition.

Architectural Drawings

Architectural drawings are drawn to scale, that of eight feet to one inch being general, with working drawings to a scale of half an inch to the foot accompanied by full-size details and profiles of mouldings. The drawings are geometric, that is in plan, elevation, and section, expressed in line and generally tinted. On plans and sections arbitrary colours are employed to indicate material, for instance, red denotes brick, purple-grey, stone, warm grey, cement, Prussian blue, iron or steel, and burnt sienna or Vandyke brown, wood.

These drawings convey little idea of the intended effect to the lay mind, and it is customary to suggest the eventual appearance by perspective views, but for practical reasons they constitute the most convenient form from which dimensions can be taken for working purposes.

Structural Design

In all structural design similar drawings are necessary, although sketch designs in perspective may be made to suggest effect, working drawings are imperative

to the execution of the work. These, when reduced to the essential conditions of rendering, with explanatory details and sections, assume a very different aspect to the original sketch.

The success of the completed work depends upon skilful detailing, which must be thoroughly explicit to be of real value.

For convenience such working drawings are generally made on detail paper, which is usually obtainable in rolls sixty inches wide by twenty-five or fifty yards. This is sufficiently transparent to be employed for tracings, a great convenience when copies are in request, and is a good surface for pen, pencil or chalk, though somewhat thin for colour.

Designs can be sketched in charcoal, and the desired lines drawn in ink. When dry the charcoal lines can be obliterated by rubbing with a leather or soft cloth, by which the charcoal is distributed, forming a tone over the whole surface. This is easily removable by india-rubber, and excellent relief effects can be obtained by judiciously taking out lights and strengthening shadows, though to avoid any possible misunderstanding it is usual to also indicate the relief by sections drawn through the details.

Lucid Arrangement

In geometric and working drawings when plans and sections are incidental to lucid explanation, these latter should appear relatively ; that is, the plan should be in alignment with the elevation, etc. Statements and directions as to procedure are often necessary, and these, placed with judgment and in good lettering, are

valuable in balancing the drawing. Not that this has any effect on the work, but because it has a good influence on the designer.

Possibly the story of Giotto and the circle that figured in the early school primers is responsible for the very general impression that the use of mechanical instruments is inartistic. Another characteristic of the young beginner is a total disregard for anything in the nature of exact dimension.

No useful purpose is served, and much valuable time is wasted, in attempts to accomplish freehand, forms that may be perfectly achieved by proper implements. Familiarity with the use of these will be found of great assistance in all design in which geometric construction, apparent or not, plays so large a part.

Of this the average beginner has little conception, and though Geometry has been a subject of their early training, they seldom have any clear idea as to its employment in design. Except in few instances, they are unpractised in the use of geometrical instruments, and at times oblivious that these serve any practical purpose.

Mathematical Equipment

In design, where accuracy is of paramount importance, a reasonable equipment is imperative. Drawing boards vary in size, but for most ordinary work the antiquarian will suffice ; the best type being that commonly used in engineering and architectural offices, with battens for adjustment and invariably a steel guide for the T square.

Large T squares are more reliable on account of the

wider head, the better sort being in mahogany with bevelled ebony edge. When accuracy is essential, the T square should only be employed for horizontal lines, those in a vertical direction being attained by the use of the set square, when the right angle can be assured by contact of the base of the latter on the edge of the T square.

Set squares indispensable for ordinary work are those of the angles of 45 degrees and 60 degrees. They should be large, about twelve inch, and in celluloid, which, being translucent, tends to greater accuracy.

Bevelled set squares, usually in mahogany with ebony edge, are desirable when the ruling pen is used, and should be placed with the bevelled side to the surface of drawing as a precaution against blotting through the ink running off the edge from the pen. For the same reason the edge of the T square should be slightly tilted, so as not to be in contact with the drawing when ruling lines with the pen.

The mathematical instruments in common request are dividers, indispensable in scale drawing. For delicate work spring dividers with needle points ensure greater accuracy. The bow or pencil compass, large with extending bar, and small; with spring bows, for minute work. For very large circles the beam compass is employed, consisting of a wood bar with two sliding clamps fitted respectively with point, and either pencil or pen which can be adjusted to the required radius.

For ink drawings the bow or pen compass is employed for circular curves; spring bows for extremely small details, medium for general purposes. The large

compass in the ordinary set is provided with both pen and pencil joints, which can be adjusted as required.

Use of the Ruling Pen

For straight lines the ruling pen should be employed. In this implement, the nibs, as in the pen compasses are provided with a screw, by means of which the pen can be adjusted to form thick or thin lines as required. Care should be taken in the adjustment; for the thinnest line the points should only be in contact. If screwed too tightly the nibs may be bent and would have to be re-set.

There is a limit to the thickness of line in individual ruling pens, which are made in varying sizes for fine or bold work. Bow and ruling pens should never be filled to the full capacity, as they are then liable to flood and blot the work. It is better also to charge the pen with the filler, which is usually provided with the ordinary liquid ink, or a brush; otherwise blotting may result. If the pen is filled by dipping, the nibs should be wiped dry on each occasion on the external faces.

In use the ruling pen should be held as vertical as possible, with the nibs perfectly parallel to the edge of T or set square, any divergence from the vertical might result in a curve instead of the straight line required. If the nibs are at an angle with the ruling edge, the ink will not flow freely, and there is also a tendency to cut the surface.

Proportional Compass

Another instrument of great use, though not so commonly in request, is the proportional compass, by

means of which drawings are enlarged or reduced. It consists of two shanks furnished with points at each end, the shanks being slotted out centrally to form a slide. The adjustment is accomplished by a set screw which also forms a pivot, which, set at any of the marked divisions, assures the given proportion.

Tracings

Tracing paper is largely in request, not only as a means of repeating details and units by transferring, but when copies of a drawing are required. It can be obtained in rolls varying in width, forty inch being generally useful, and in different surfaces, rough and smooth, the former being good for pencil work—the smooth being more suitable for ink tracings.

When tracings of a more durable character are required they are made on linen, which for this purpose has a highly glazed surface on which the ink will not always run equally. This can be rectified by lightly rubbing the surface with French chalk and by adding a little ox gall to the ink. The latter is a useful agent in counteracting any greasiness of surface and is often necessary in colour work.

Conclusion

The stimulus of competition is always healthy, and the necessity to attract has resulted generally in raising the standard, notably in forms of advertisement. The designer has not only to keep pace with modern conditions, but in some phases of work has also to anticipate future demand.

Students are too often infected with the phase of the

moment, or by the work of some distinguished exponent. This is quite natural, and to some extent such emulation may be condoned, but if it becomes an obsession it is fatal to the development of individualism. It is desirable, indeed commendable, for students to be interested in contemporaneous work; but they should realise that personality will never be achieved by imitation, though emulation and experiment are legitimate methods of training.

Art training is largely in that of technique, consisting chiefly of the handling of the tools and mediums involved. It is obvious that when this technique is successfully acquired it implies a high standard of craftsmanship. This is essential, but personality is of greater importance and its development depends upon the individual. Some who have nothing personal to express may be capable of attaining great facility in various mediums, but stop at the imitative, and though this may be lucrative, no great artistic distinction is possible.

If personality is latent it will develop quite unconsciously, and the endeavour of the student should be to see, understand and express the subject of study or idea with sincerity, regardless of any current phase however interesting. In this way only can be attained the personal attitude and expression that really constitutes the interest in all forms of art.

INDEX

ACANTHUS Foliage, 38, 263
,, Leaf (Greek) 264
,, ,, (Roman) 266
Acanthus Leaf (Byzantine) 267
Romanesque, 268
Gothic, 268
Italian Renaissance, 279
French Renaissance, 280
Jacobean, 280
Louis XIV, 283
Louis XV, 284
Louis XVI, 284
Grinling Gibbons, 285
Adam, 286
System of the, 286
Adam, Robert, 123
Alberti, Leo Battista, 76
Ancient Pottery, 8
Animals in Art, 331, 334
,, ,, Compound, 336
Angelo, M., 79
Anthemion, The, 262
Anthemius, 45
Apathy, Public, 8
Appliqué, 296
Appreciation of Design, 288
Architecture, Egyptian, 22
Chaldean, 25
Greek, 28
Roman 35
Byzantine, 43
Romanesque, 49
Gothic, 59
Renaissance, Italian, 75
,, Florentine, 76
,, Roman, 78
,, Venetian, 80
,, French, 85
,, in England, 88
,, Elizabethan, 91
,, Jacobean, 93
,, English, 102
,, Louis XIII, 103
,, Louis XIV, 106
,, Louis XV, 110
,, Later English, 113
Architectural Drawing, 158, 363
Architectural Features, Abacus, The 173, 175, 178
Arch, 20
,, Pointed, 58
Architectural Features—*continued*
Arch, Decorated, 64
,, Perpendicular, 68
,, 184
Arcades, 200
,, Vaulted, 201
Architrave, 161, 164, 169, 172, 211
Archivolt, The, 186, 187
Attic, The, 208
Baluster, The, 191
Balustrading, 193
Battlement, The, 66
Base, The Doric, 181
,, The Ionic, 182
,, The Corinthian, 183
Basement, The, 207
Buttress, The, 59
Capital, The Doric, 173
,, The Ionic, 175
,, The Corinthian, 178
Clerestory, The, 51, 67
Column, The, 172
,, Employment of, 194
,, Disposition and Spacing of, 195
Corinthian Order, The, 163
Cornice, 161, 164, 169, 171, 209
Doric Order, The, 161
Doors, 211
Entablature, The Doric, 164
,, The Ionic, 169
,, The Corinthian, 171
Frieze, The, 161, 164, 167, 169, 171, 213, 226
Impost, The Doric, 185
,, The Ionic, 186
,, The Corinthian, 187
Ionic Order, The, 163
Keystone, The, 187
Lintel, The, 19
Mouldings, 61, 64, 68, 97, 107
,, Profiles, 138
,, Purpose of, 139
,, Decoration of, 143
,, Employment of 147
Mutule, The, 164
Order, The, 160
,, The Doric, 161
,, The Ionic, 163
,, The Corinthian, 163
Pedestal, The, 188

Architectural Features—*continued*
Pedestal, The Doric, 189
,, The Ionic, 190
,, The Corinthian, 190
Pediment, The, 209
Piers, 60, 184, 200, 205
Pilaster, The, 160, 199, 235
Plynth, The, 161, 181. 183, 184, 188, 190, 191, 193, 204, 208
Rustication, 205
Subsidiary Order, The, 202
Superimposed Orders, 197, 204
System of Proportion, 159
Triforium, The, 53, 60, 67
Vault, The, 20, 36, 53
,, Treatment of, 224
Vaulting, Fan, 68
Volute, The, 175
Windows, 60, 213
,, Plate Tracery, 61
,, Tracery of, 63, 64
Art, Interest in, 1
Definition of, 5
As an Appeal, 5
Ethical Side of, 14
Desire for Novelty in, 15
Egyptian, 23
Chaldean, 25
Greek, 33
Roman, 38
Græco-Roman, 40
Byzantine, 45
Artistic Phases of Expression, 10
Aureole, The, 340

BALUSTER, The, 153, 191, 246
Bank of Ireland, 136
Base, The Doric, 181
Base, The Ionic, 182
,, The Corinthian, 183
Basement The, 207
Battlement, The, 66
Bazzi Gian Antonio (Sodoma) 83
Berain, Claude, 106
,, Jean, 106
Bernini, 80
Book Decoration, 300
Borders, 227
,, Treatment, 233
Boule, André Charles, 106, 109
,, Work. 298
Bramante, 78
Branching, Types of, 273
Brunelleschi, 76
Buttress, The, 59
Byzantine, Art, 45

CADUCEUS, The 342.
Cannibalism, 336
Capital, The, 22, 50
Capital, Doric, 173
Ionic, 175
Corinthian, 178
Carved Work, 301
Design for, 302
Ceilings, Jacobean, 97
Louis XIII, 105
Louis XIV, 108
Louis XV, 112
Treatment of, 218
Centaur, The, 339
Chaldean Art, 25
Chambers, Sir William, 136
Chambord, Chateau de, 86
Champleve Enamel, 47
Chenonceaux, sur Loire, 86
Chimney-piece, Jacobean, 94
Chippendale, 121
Choragic Monument, 32
Christian Art, Early, 46
Circle, Symbolic meaning of, 340
Cipriani, 126
Clerestory, The, 51, 67
Colour, Symbolism of, 345
Use of, 353
Opaque, 360
Column, The, 172
Employment of, 194
Disposition and Spacing of, 195
Commercial Production, 6
Intercourse, 12
Convention, 292
Accepted, 351
Cornucopia, The, 346
Corinthian, Order, 163
Entablature, 171
Capital, 178
Base, 184
Pedestal, 190
Impost, 187
Craft Restriction, 256
Cressent, Charles, 111
Cross, The, 343
Crozier, The, 344
Crux Ansata, 343
Customs, Survival of, 311
Early Burial, 322

DANCE, George, 136
Decorative, Materials, 289
Deities, Egyptian, 318
Deities, Greek and Roman, 316
Scandinavian, 317
Pan, 339

Delorme, Philibert, 87
Dentils, 146
Design, Mental vision in, 1
  Inspired, 2
  Process and material in, 2, 8
  Considerations in, 3
  Public demand, 3
  Training in, 4
  Influence in, 4, 8, 12, 18
  Architectural influence in, 14
  Appreciation of, 288
  Structural, 363
Domes, Byzantine, 43
  Treatment of, 224
Domestic Conditions, 54, 72, 74
Donatello, 76
Doors, Jacobean, 96
  Proportions and Treatment, 211
Doric Order, 28, 161
  Entablature, 164
  Capital, 173
  Base, 181
  Pedestal, 189
  Impost, 185

ECOLE de Médécine, 132
Echo, 319
Egyptian Art, 22
Enamel, Byzantine, 47
Endymion, 319
Enlarging Drawings, 360
Equipment, Mathematical, 365
Eurydice, 324
Evangelists, 331
Evolute Scroll, The, 234, 261

FARNESE Palace, 79
Fates, 318, 320
Figure Composition, 244
Filagree Jewellery, 258
Flowers, in Ornament 270
Fontainebleau, Palace of, 86
Forms in the round, 245
Four Courts, Dublin, 136
French Renaissance, 85
  Louis XIII, 103
  Louis XIV, 106
  Régence, 111
  Louis XV, 110
  Louis XVI, 127
  Empire, 135
Frieze, The, 226, 266
Furniture, Egyptian, 24
  Chaldean, 27
  Greek, 32
  Roman, 39
  Middle Age, 54
Furniture—*continued*
  Decorated Gothic, 66, 73
  Italian Renaissance, 84
  English Renaissance, 92
  Jacobean, 98
  Louis XIII, 105
  Louis XIV, 108
  Louis XV, 113
  English (Dutch Influence) 118
  Queen Anne, 120
  Chippendale, 121
  Lacquered, 113, 126
  Painted, 126
  Sheraton, 127
  Louis XVI, 133
  Empire, 135

GALLO, Antonio San, 79
Gallo, Giuliano di San, 79
Gandon, James, 136
Gems, Symbolism of, 345
Gibbons, Grinling, 114, 137, 285
Gibbs, James, 115
Giocondo, 79
Giotto, 83
Gondouin, Jacques, 132
Gouthière, 133
Graces, Christian, 329
Græco-Roman Art, 40
Greek Art, 28
Grimani Palace, 80
Growth, Consistency in, 273

HALF Figures in Ornament, [278
Halo, The, 340
Hamadryads, 339
Hampton Court Palace, 114
Hand, Symbolism of the, 341
Harpy, The, 320, 338
Hawksmoor, Nicholas, 115
Hepplewhite, 126
Heraldry, 348
Holbein, 89
Holkham, Norfolk, 121
Holt, Thomas, 91
Horse Guards, Whitehall, 121
Husk Leaf, The, 269

IMPOST, Doric, 185
Ionic, 186
Corinthian, 187
Impressionism, Early, 10
Influence of Material, 8, 258
  Political, 12, 17, 71
  Religious, 12, 17
  Commercial, 12, 17, 71
  Civic, 70

Influence—*continued*
Of the Crusades, 56
Of Fashion, 352
Inspiration, Belief in, 2
Intarsia, 297
Interior treatment, Græco-Roman, [39
Romanesque Church, 51
Domestic, Tudor, 73
Italian Renaissance, 83
Jacobean, 94
Louis XIII, 104
Louis XIV, 107
Louis, XV, 112
Wren Period, 116
Georgian, 121
Adam, 126
Louis, XVI, 133
Walls, 216
Ceilings, 218, 221, 222
Vaults and Domes, 224
Ionic Order, Greek, 32
Renaissance, 159
Proportions of, 163
Entablature, 169
Capital, 175
Base, 182
Pedestal, 190
Impost, 186
Italian Renaissance, 75, 78, 80

JEWELLERY, Filagree, 258
Jones, Inigo, 81, 102, 137

KAUFFMAN, ANGELICA, 126
Kent, William, 121

LACE, 297
Lacquered Furniture, 113, 126
Lares, Roman, 322
Leaves, Employment of, 275
Treatment of, 293
Lebrun, 106
Legend, 323, 333
Lepautre, 106
Limitations, Human, 1
Lintel, The, 19
Louvre, 80, 86

MADERNO, Carlo, 79
Madrid, Chateau de, 86
Magical Qualities, Belief in, [325
Mainwaring, 123
Majano, Benedetto da, 77
Mansart, Jules Hardouin, 106
Mansion House, London, 136
Marble, Byzantine use of, 47, 300
Marquetry, 298
Marot, Daniel, 106, 109
Martyrdom, Symbols of, 345
Masks, 346
Mathematical Equipment, 365
Material in Design, 258
Mayhew, 123
Medusa, 346
Metal Work, Bronze, 42
Byzantine, 47
Repoussé, 304
Cast, 306
Mounts in Furniture, 108, 135
Methods of Expression, 292
Micheli, San, 80
Modelling, 301, 304
Mosaics, Byzantine, 47, 299
Mouldings, Attitude of, 148
Bolection, 152
Decorated Gothic, 64
Decoration of, 143
Drawn Metal, 155
Employment of, 147
Jacobean, 97
Pointed Gothic, 61
Plaster, 153
Pottery, 154
Profiles of, 138
Purpose of, 139
Repoussé, 157
Rolled Metal, 155
Spun Metal, 157
Turned Wood, 153
Wood Panel, 149
Muses, 328
Mythology, Origin of, 312
Scandinavian, 317
Myths, Nature, 312
Season, 314
Sun, 315

NATURE, Myths, 312
Study, 355
Natural Attraction, 288
Natural Suggestion, 353
Phenomena, Belief in, 315
Needlework, 296
Newgate Prison, 136
Nimbus, The, 340
Noon, 318
Numbers, Belief in, 328

OPPENORD, Giles Marie, 111
Order, 160

Order, Doric, 161
Ionic, 163
Corinthian, 163
Originality, 1
Ornament, Roman, 39
Byzantine, 45
Romanesque, 50
Pointed Gothic, 63
Decorated Gothic, 65
Perpendicular Gothic, 69
French Renaissance, 88
English ,, 88, 91
Later English ,, 118
Louis XVI, 134
Empire, 135
Outline, Drawing, 254

PAINTED Decoration, Roman, Renaissance, 82, 294 [39
Painted Furniture, 126
Palazzo, Pitti, 77
Strozzi, 77
Palladio, 78, 81
Pan, 339
Panels, Treatment of, 236
Juxtaposition, 238
The Composing Lines, 241
Grouping and Massing, 242
Division of, 242
Pantheon, Rome, 36
Passion, Symbols of the, 345
Pastoral Staff, 344
Parthenon, 30,
Perugino, 83
Peruzzi, Baldazzare, 79
Pineau, Nicholas, 111
Piers, Gothic, 60
Pinturrichio, 83
Potters, Elementary, 9
Pottery, Ancient, 8
Greek, 34
Predestination, 319
Prehistoric Workers, 9
Personal Production, 10
Primitive Essays, 8
Requirements, 11
Prohibition, 324
Propitiation, 320

RAFFAELLE, 79
Realism, 255
Régence, 111
Relief Work, Treatment of, 293, 301
Reproduction Processes, 304
Drawing for, 359
Riesener, 133
Rococo, 111
Romano Giulio, 83
Rosette, The, 270

SACRED Trees and Flowers, 329
Sacrifice, 321
Sansovino (Jacopo Tatti) 80
Sarto, Andrea del, 86
Scamozzi, Vincenzo, 81
Sceptre, The, 341
Scroll, The, 266
Season Myths, 314
Secular Symbols, 347
Serlio, 78, 87
Shells, Symbolism of, 345
Sheraton, 127
Sirens, The, 338
Social Conditions, Early, 11
Sodoma (Gian Antonio Bazzi) 83
Somerset House, 136
Soufflet, 110
Spires, Pointed Gothic, 64
Decorated Gothic, 66
Classic, 116
Spiritual Belief, Early, 323
St. Geneviéve (Pantheon) 110
George, Bloomsbury, 115
Mark, Library of, 81
Martin in the Fields, 115
Mary le Strand, 115
Mary, Woolnoth, 115
Paul, Covent Garden, 103
Peter's, Rome, 78
Stephen's, Walbrook, 116
Standards, 246
Starts in Ornament, 276
Stencilled Work, 295
Strapwork, 87
Structural Design, 363
Style, 16
Phases in, 18
,, ,, Gothic, 60
Sun Myths, 315
Signs, 340
Supports, 246
Surface Interest, 294
Symbols of the Evangelists, 331
Symbolic Ornament, 310

TABOO, 322
Taste, 6
Tatti, 80
Technical Considerations, 292
Tendrils, 271
Textiles, Printed and Woven, 296, 361

Thorpe, Thomas, 91
Thyrsus, The, 342
Time, Symbols of, 346
Torches, 346
Torrigiano, 89
Totemism, 336
Tracery, 61
  Pointed, 63, 64, 68
Tracings, 368
Trident, The, 343
Triforium, 53, 60, 67
Trinity College, Cambridge, 116
Trinity, Symbols of the, 341
Triton, 339
Trophies, 347
Tuileries, The, 87

UDINE, Giovanni da, 83
Undulate, Line or Stem, 230, 266

VAGA, Pierino del, 83
Vase, Greek, 29, 258
  Forms and Decoration, 248
Vase, Stretch out and Segments, 250
Vault, The, 20, 36, 53
  Treatment of, 224
Vaulting, Fan, 68
Veneer, 298
Venetian, Renaissance, 80
Versailles, Palace of, 106
Vesica Piscis, The, 340
Vignola, 78, 80, 87, 159
Vinci, Leonardo da, 86
Volute, The, 175

WALLPAPER, 290, 362
Whitehall, Banqueting House, 103
Windows, Glazing of, 47, 67
  Pointed Gothic, 61
  Decorated Gothic, 64
  Perpendicular Gothic, 68
  Domestic, 73, 74
  Jacobean, 98
  Treatment of, 213
Winds Personified, 319
Wood, Inlay, 297
  Treatment of, 289
Wren, Sir Christopher, 81, 114, 137

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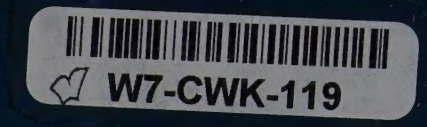
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